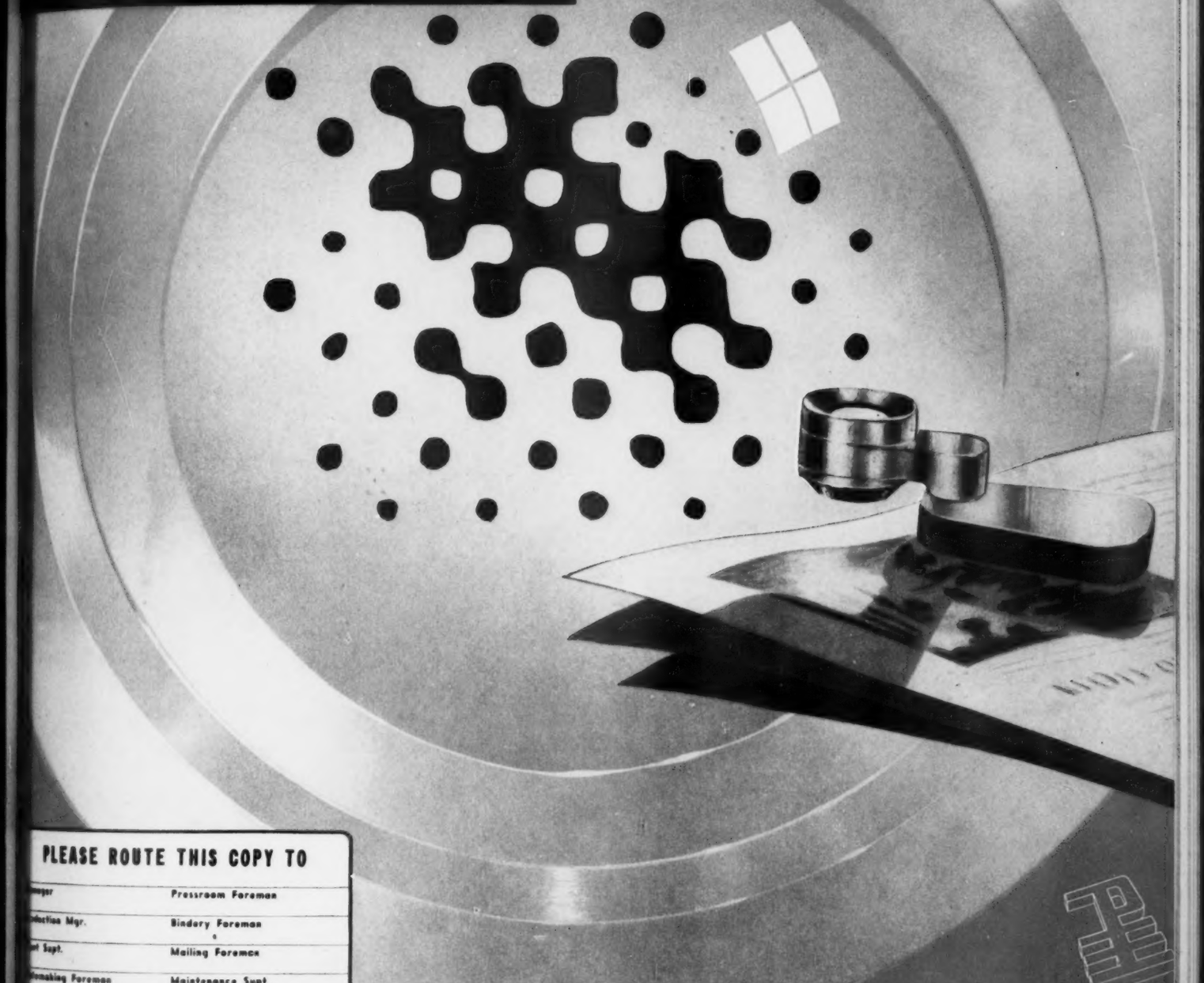
OCTOBER 1954

PRINTING EQUIPMENT Engineer

Electronic Color Correction and the Color Splitter

Electrotype Casting Done by Continuous Immersion Method

Stereotype Mat Color Register System; a new Single Width Newspaper Press; a newly redesigned platen press and other important articles



PLEASE ROUTE THIS COPY TO

...ager	Pressroom Foreman
...duction Mgr.	Bindery Foreman
...rt Supt.	Mailing Foreman
...emaking Foreman	Maintenance Supt.
...posing Foreman	Purchasing Agt.

...filing, please return to

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

LOOK at the Outstanding Features of the New Star Selectro-Matic Quadder

CONTINUOUS OPERATION

No waiting for lines to clear casting position.

SEPARATE HYDRAULIC AND MECHANICAL FUNCTIONS

This means dependable, trouble-free operation.

SINGLE SETTING WHEN CHANGING MEASURE

Saves time because a measure change can be made with one motion (three motions replaced by one). Increased gear ratio of measure control mechanism makes changes twice as fast.

EXACT CENTERING ON ODD POINT MEASURES IS AUTOMATIC

ELECTRO PUSH BUTTON SELECTOR

Conveniently located at keyboard on manual operation — no reaching necessary.

ADAPTABLE TO TELETYPESETTER OPERATION

With the *Star* SELECTRO-MATIC QUADDER on your Linotype or Intertype machine, you get a quadder with easy finger-tip control, foolproof mechanical simplicity and PROVEN hydraulic actuation. It is synchronized with the Mohr saw and has the original and perfected Electro-Pump Stop safety . . . plus the added factor that the new *Star* SELECTRO-MATIC QUADDER can be installed in one day!

A new folder on the new SELECTRO-MATIC QUADDER will show how you can increase your production in more detail. Write for it today.

Precision TRADE ★ MARK *Parts*

BRANCH: 1327 BROADWAY, KANSAS CITY, MO.
AGENCIES: CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • BOSTON
CANADA: SEARS LTD. and Agents Overseas

LINOTYPE PARTS *Company, inc.*

SOUTH HACKENSACK, N. J.

● *Every few seconds, day and night, somewhere in this wide world, a Sta-Hi Master Former purrs into action to automatically dry and form an edition page mat . . . assuring stereotype and pressroom craftsmen of a near-perfect printing plate . . . making publishers, advertisers and readers happy with a better printed newspaper!*

STA-HI

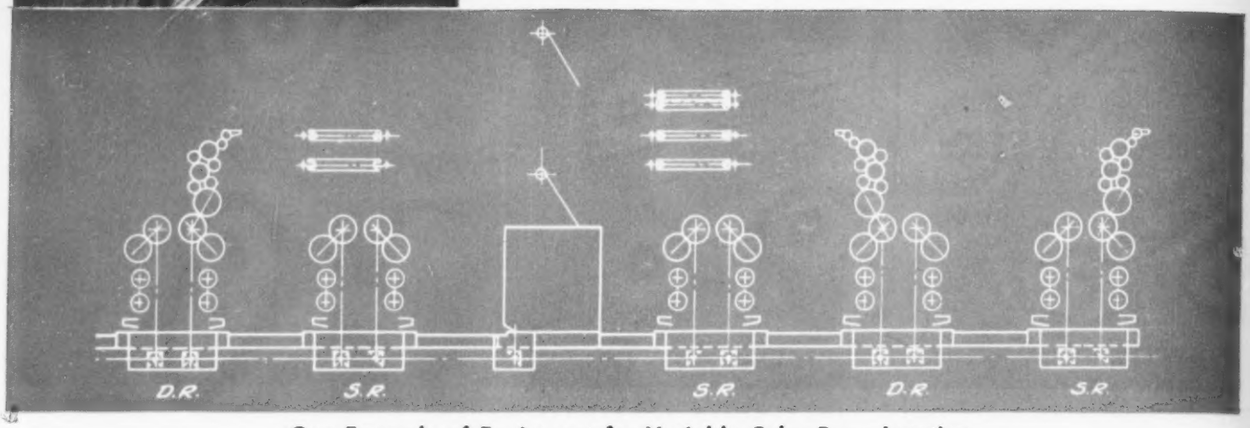
...your best buy

STA-HI CORPORATION, BOX 152, WHITTIER, CALIFORNIA

"No doubt about it--

COLOR - with SCOTT PRESSES

has the punch that advertisers want"



One Example of Equipment for Variable Color Page Location

The above diagram shows a press equipped to enable any two adjacent units to print 4 colors on either side of one web and allowing the turning over of one-half of the web when desired to vary the color page location.

NEWSPAPER admen are hailing COLOR as the most effective linage booster on the newspaper scene today. Advertisers welcome the opportunity to put punch into "tired" black-and-white presentations, and newspapers offering ROP color report substantial and consistent gains each year.

It is of vital importance, however, that the color equipment employed will reproduce full-tone, perfect-register color at high speed newspaper production. For although the use of color is still attractive as a novelty to many advertisers, they may be expected to become more critical of printed results as this development comes into wider use.

SCOTT'S experience in designing and building color equipment for newspapers extends over so many years that SCOTT leadership in this field has been long-established. For excellence of color printing at high speed — for greatest diversification — flexibility of color positioning — adaptability to conditions of the individual newspaper pressroom, SCOTT equipment stands alone.

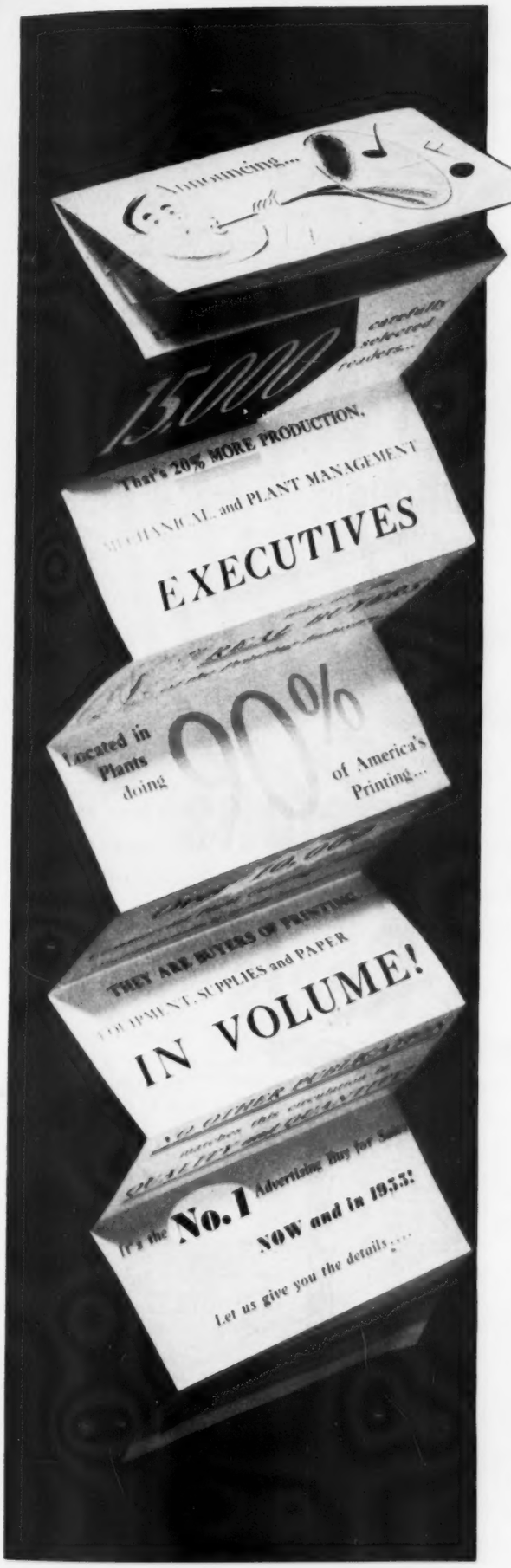
Write today for the booklet describing the outstanding advantages of SCOTT printing units when employed to add color to newspapers by either of the two basic methods.

Buy with CONFIDENCE - - - Buy SCOTT

WALTER SCOTT & CO., INC.

PLAINFIELD, NEW JERSEY

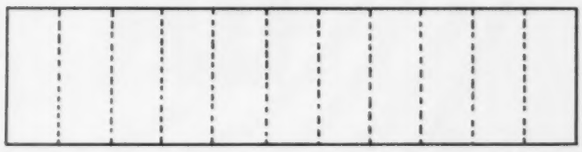
5-54-3



a new look

IN DIRECT MAIL ADVERTISING!

11″ x 52″ — 10 parallel folds each
11″ x 4¾″ — 20 messages



Unique PRINTING EQUIPMENT *Engineer Folder Made Possible By New Folding Machine*

• When PRINTING EQUIPMENT Engineer recently announced an important circulation increase, its art director designed the unusual announcement folder shown at the left with its 10 parallel folds. This piece presents a new look in direct mail advertising... a folder that can carry 20 different sales messages... a folder which intrigues every reader.

But the same folder also presented a real folding problem to the printer since hand folding was entirely impractical. The problem was solved by having the job folded on the new Baum Folding Machine that makes from 4 to 10 parallel folds, also right angle folds... all in the same operation.

★ *This advertising space is paid for by Russell Ernest Baum, Inc.*

LATE

DAILY NEWS

NEW YORK'S PICTURE NEWSPAPER ®

4¢

Vol. 35. No. 274 New York 17, N.Y., Wednesday, September 8, 1954*

VOTE TODAY ON

Purchas 27 ditional

WOOD

Autopasters... Tensions and Reels

IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY

EXECUTIVE and SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17, N. Y.

PRINTING EQUIPMENT Engineer

October 1954

An industry-wide technical magazine published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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PRINTING EQUIPMENT *Engineer*, published monthly at 1276 West Third St., Cleveland 13, Ohio.

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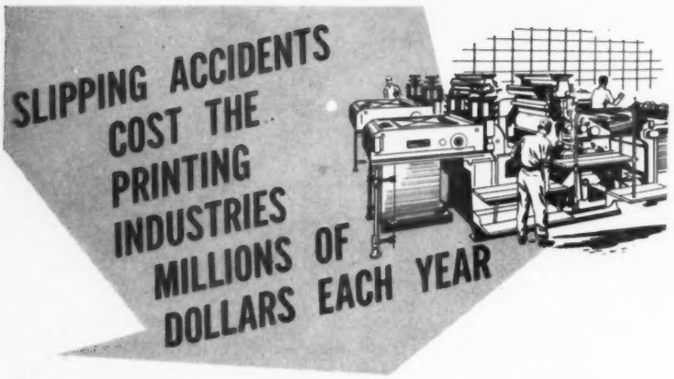
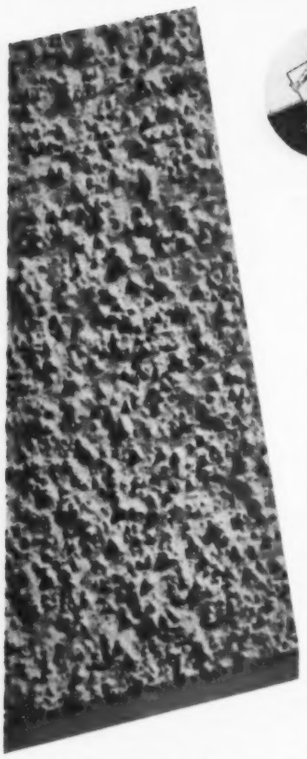
Printed in U. S. A.

AN INDUSTRY-WIDE TECHNICAL MAGAZINE



SLASH COMPENSATION INSURANCE PREMIUMS with

ALGRIP



Slippery floors in pressrooms that keep accident rates up, production down and insurance premiums out of line can be made safe quickly and easily by installing ALGRIP Abrasive Rolled Steel Floor Plate.

In countless plants, laying ALGRIP in slippery areas has stopped accidents and pared insurance premiums down to pocket size.

Hundreds of tiny abrasive particles impregnated *to a controlled depth of penetration*—an exclusive ALGRIP feature—into tough, lightweight steel plate gives every square foot of ALGRIP an abrasive "grinding-wheel" grain surface that takes a firm grip at every footstep. And ALGRIP's surface never becomes smooth because wear only exposes new particles.

ALGRIP foot safety pays for itself in savings of insurance premiums. Write today for full details on how ALGRIP can cut costs for you. There's no obligation.

ALAN WOOD STEEL CO. ESTABLISHED A.W. 1826 CONSHOHOCKEN, PA.

UL

A.W. ALGRIP Abrasive Rolled Floor Plate
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, Pa.

Please send Booklet AL-30 on cutting costs with ALGRIP.

Name_____ Title_____

Address_____

City_____ Zone_____ State_____

Equipment and *Supplies*

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.

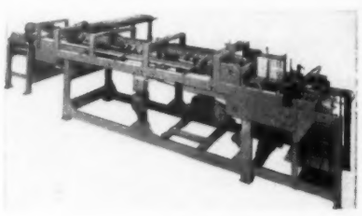
Larger Capacity Plate Hangers

Filing capacity of Atlas filing cabinets in which are stored offset plates, negatives, silk screen, artwork, etc., has been increased by the Atlas Stencil Files Corp.

through the development of four plate hangers. The Atlas lug type SH Series hangers for serrated edge offset plates are now available with lugs on the front and back of hangers. The DSHA hanger, which is 11½ in. wide, will accommodate two 10½ in. wide plates; the DSHB hanger, which is 14 in. wide, will accommodate two 11½ in. wide plates; and the DSHC hanger, which is 22 in. wide, will accommodate two 20½ in. wide plates or four 10½ in. wide plates. The lug type stencil hanger is also available in a 22 in. width for use in the C De Luxe or C Jumbo Model filing cabinets. The DSC hanger will accommodate up to four stencils on each hanger. Complete details may be obtained by mentioning PEE No. 305 in your request.

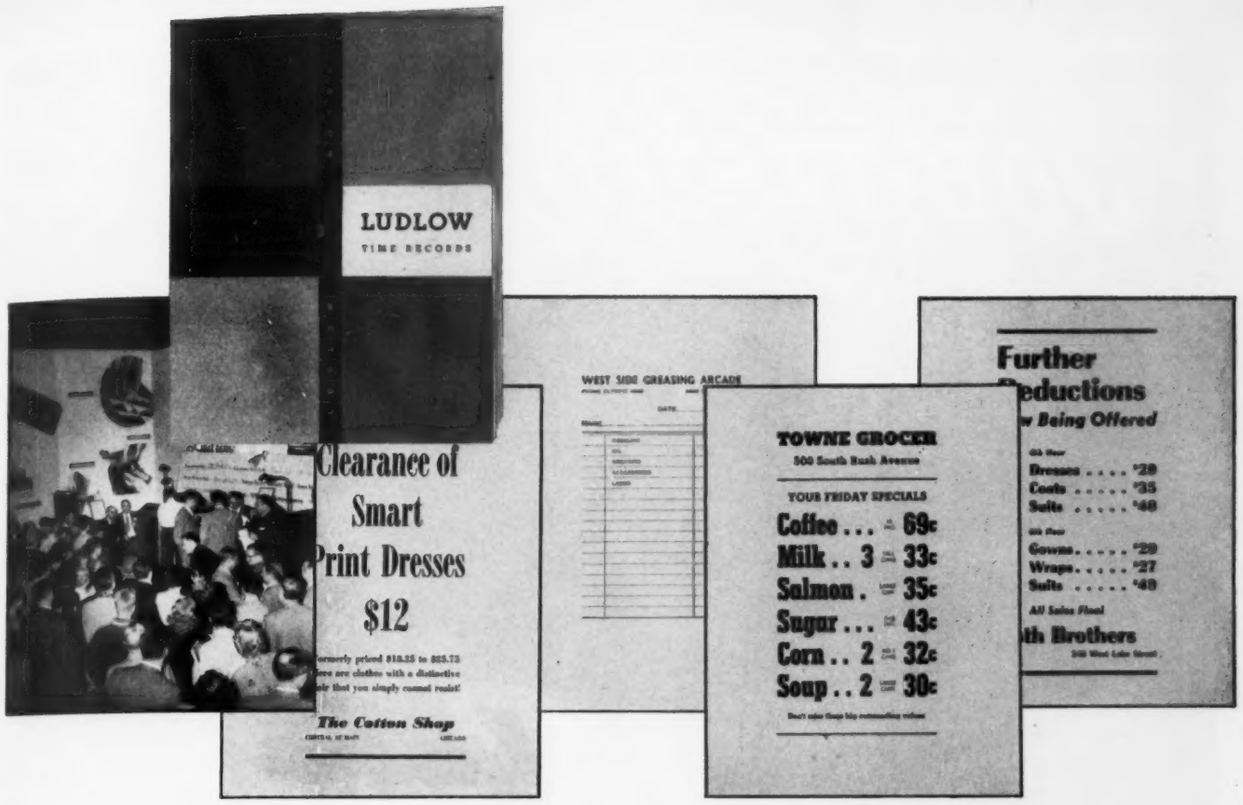
Periodical Wrapping Machine

A machine which automatically flat-wraps and fold-wraps periodicals for mailing has been announced by L. C. Martin & Associates. To be known as the Auto-



Wrap, the machine is also designed for applying preprinted bands to magazines. Sponsor states that several minutes are required for a changeover for a different size book using the same type wrap. Changeover time from a large flat-wrap magazine to a small fold-wrap magazine

(Continued on Page 12)



"Ludlow Time Records"

Close-up of visitors inspecting Elrod machine and product

During the last Graphic Arts Exposition, held in Chicago, the Ludlow Company conducted twelve public demonstrations of display and job composition so that any one could see for himself the economies of doing such work the easy and time-saving Ludlow way.

Spectators at the exposition were invited to estimate the time actually required to set and make up each job from reprint copy, using both single types and the Ludlow. Each job was then set on the Ludlow and made up as a public demonstration of its use for the work in hand. Men well-known and respected in the printing and publishing field served as judges at these public demonstrations.

All of these jobs have been included in the 20-page booklet (illustrated above) entitled "Ludlow Time Records." The actual time required on the Ludlow for setting, casting and make-up is given, and also a detailed description of how each job was produced on the Ludlow. The special advantages of the Ludlow system of display composition on each job are clearly and thoroughly explained.

Send for your free copy of this valuable 20-page booklet today. It will enable you to understand how Ludlow helps to improve composing room efficiency.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14, Illinois

Set in members of the Ludlow Karnak family

Write us for list of users of the MAGNACRAFT Wrapping Machine

BY THE NATION'S LEADING JOURNALS

MAGAZINE WRAPPING "ain't what it use to be" . . . at least not in these modern publishing plants. Gone is the confusion . . . the messy wrapping . . . the delayed make-up . . . *the unpleasant impressions of subscribers!* Today these magazines are beautifully wrapped . . . uniformly tight, always neat and sure to be received in attractive condition. The MAGNACRAFT Wrapping Machine does it . . . and does it fast . . . right and economically . . . always! That's why it's used and enthusiastically endorsed by leading publications. It cuts their cost . . . engenders and maintains a smooth-working mailing room schedule . . . and is so simple to operate anyone can do it.

Write today for details

Magnacraft MANUFACTURING COMPANY

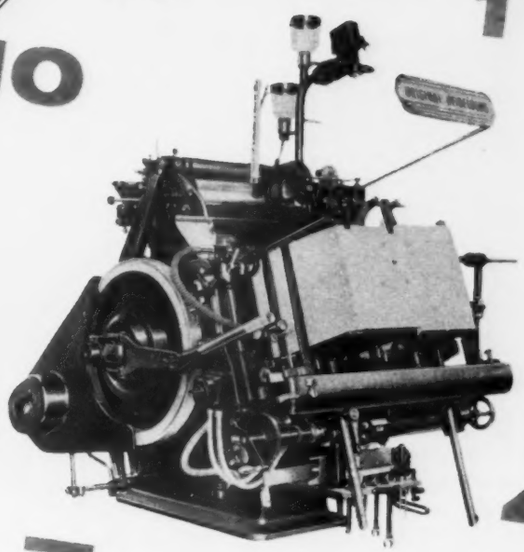
3138 WEST CHICAGO AVENUE ● CHICAGO 22, ILLINOIS

HIGH-SPEED PERIODICAL WRAPPING AND LABELING MACHINES

THE BEST THING NEXT TO A PRINTER

ORIGINAL HEIDELBERG

DON'T WAIT FOR TOMORROW...



YOU CAN PROFIT TODAY!

Secure your future with ORIGINAL HEIDELBERGS, the press of tomorrow... make it yours... today! See the Original Heidelberg's *33 great* "Future Features!" Test them yourself. You'll *know* why we say "You make most money with ORIGINAL HEIDELBERGS". No platen press in the world can match ORIGINAL HEIDELBERG in speed, accuracy, versatility, and in all-around *high-profit* performance. It's the only *fully* automatic platen . . . the one press truly geared for tomorrow's printing. Get set for success. Write now—right now, for free demonstration.

Main Distributors of Schnellpressenfabrik, A. G. Heidelberg

HEIDELBERG WESTERN SALES CO.
118 E. 12th St.
Los Angeles 15, Calif.

HEIDELBERG EASTERN INC.
45-45 Thirty-Ninth St.
Long Island City 4, N.Y.

HEIDELBERG SOUTHERN SALES CO.
120 N. Sampson St.
Houston 3, Texas

HEIDELBERG SALES AND SERVICE

Columbus 15, Ohio; Chicago 16, Ill.; Atlanta 5, Ga.; Kansas City 6, Mo.; Minneapolis 15, Minn.; Denver 2, Colo.; Salt Lake City, Utah; San Francisco 3, Calif.; Seattle, Wash.; Portland, Ore.

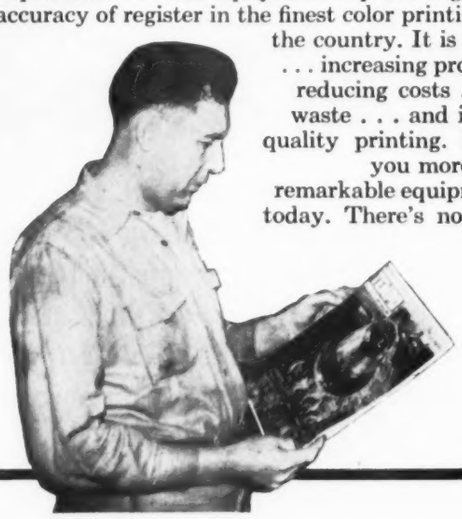
How the HURLETRON *Automatic* Color Register Control *keeps colors in register at all operating speeds.* Here are the three principal operational factors which combine to provide instantaneous, accurate multi-color register for web-fed letterpress, color roto, and R.O.P. newspaper printing.

1 This is the scanning device, or "out-of-register detector." One or more of these is mounted after each color cylinder. On the job every instant . . . keeping an eagle eye on the speeding web as one color registers on another . . . a Hurletron scanner will detect even a thousandth of an inch out of register. When corrective action is indicated, it acts instantly . . . transmits its message to the compensating mechanism . . . and returns the press to absolute register before the error is visible to the human eye. This sensitive, microscopically accurate scanner is not affected by ink mist and requires no cleaning.

2 Shown here is one of the selector switches and a portion of the hydraulic compensator assembly. Impulses received from the scanner are integrated to obtain information as to the trend of register. The device then translates this into small incremental corrections, moving only the required distance to bring color back into register. Thus, at low or high speed, close register is held with a minimum of compensator movement. The circuit is designed also to make instantaneous corrections of large deviations such as occur at splices, resulting in minimum waste of printed copies.

3 The Master Control Panel is conveniently located at the delivery of the press. Meters provide the pressman with a continuous visual indication of running register. Colors are first brought into register by manual push button controls, the corrections being shown on the meters in known increments. As soon as each color has been brought into register, its control is switched to "automatic." All further corrections are made automatically and register is maintained to an accuracy of a few thousandths of an inch.

Simple . . . easy to operate . . . automatic . . . and fully dependable . . . this equipment is providing the utmost accuracy of register in the finest color printing plants in the country. It is saving time . . . increasing production . . . reducing costs . . . cutting waste . . . and insuring top quality printing. Let us tell you more about this remarkable equipment. Write today. There's no obligation.



ELECTRIC EYE EQUIPMENT COMPANY

1930 East Fairchild Street, Danville, Illinois

Manufacturers of Hurletron Automatic Controls of Caliper and Weight on Paper and Board; Center Line and Side Web Guide Controls; Cut-Off and Back-Up Controls; Slitter Controls; Continuous Nephelometer for detecting suspended solids in liquids.

Brief case (and a strong one!)

for the use of Maxwell Bond in your business

It's a tough life for business forms—but a *long* one when they're on Maxwell Bond.

No doubt about it, Maxwell is made well for forms and other utility jobs. It's strong enough to stand the strain. Yet, it looks, prints and works and acts like a much higher priced bond.

With it all, Maxwell Bond is compatible to business and office budgets.

We're sold on it—enough to grace it with our watermark.

We think you'll like it too!

Maxwell Bond

America's Favorite Low-Cost Bond

HOWARD PAPER MILLS, INC. • MAXWELL PAPER COMPANY DIVISION • FRANKLIN, OHIO

Equipment & Supplies

(Continued from Page 6)

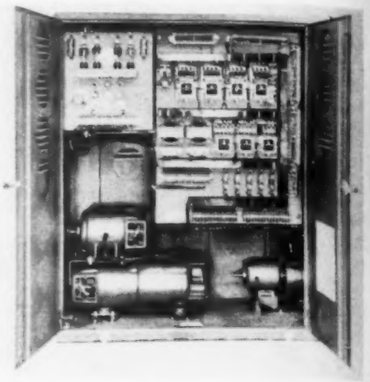
is approx. 1 hr. A continuous pile feeder holds approx. 1 hr.'s supply of wrappers. The magazine hopper loads from the top and feeds from the bottom. Wrapping speeds range from 3500 to 6000 magazines per hr. Floor space is approx. 19 ft. by 3 ft. Wrapped periodicals are delivered in fanned out position on a 12 ft. variable speed conveyor. A built-in book turnover provides for periodical delivery with either the seamed or smooth side of the wrapper up. For more details please mention PEE No. 315 in your request.

Lifting Devices Bulletin

Economy Worklifters, portable battery operated lifting devices, designed for various types of industrial use, are the subject of a 12 page bulletin issued by Economy Engineering Co. Units are available with 1000 lb. capacity and with lifts which extend up to 80 in. Descriptions and illustrations of Economy Shoplifters are included in the bulletin which are designed with both hand powered and electric hoisting units. Accessories for special handling operations are also shown. The Economy elevating table, drum storage racks, drum trucks, carboy tilter-truck, etc., are among the other equipment items included in the bulletin. Specifications are listed. For a copy, please mention PEE No. 286 in your request.

Wiring for Drive Control Units

Protection for panel wiring, simplification of wiring diagrams and simpler alteration for possible future changes of drive functions are the advantages



claimed by Reliance Electric and Engineering Co. for its channel wiring feature being incorporated in the control units of the company's adjustable speed V-S Drives. The design now leads the wires across the surface of the control panels through protective channels and the wires are identified by a code number and color. The wires are carried in duct-like channels (as shown in the accompanying illustration) which have perforated sides for the exit of each wire to its proper destination. Wiring diagrams on the Reliance drive control units show only the numbered terminals rather than the path of the wires. The color and number coding is listed on a wiring table. Sponsor states that changes in channel wiring diagrams require only code changes or additions on the wiring table. If further details are desired, please mention PEE No. 291 in your request.

Gravure Ink Color Control Instrument

The Cincinnati Div. of Bendix Aviation Corp. has reported successful field tests on the Bendix Ultra-Viscoson, an ultrasonic viscometer designed for con-

trolling the color shade of gravure inks by controlling the viscosity. The instrument detects the loss of solvent by evaporation which affects color on a gravure press enabling the pressman to compensate for the loss by adding solvent to the ink fountains. The viscosity sensing probe (shown in the illustration) is hermetically sealed and equipped with an explosion proof junction box. It may be mounted by means of standard

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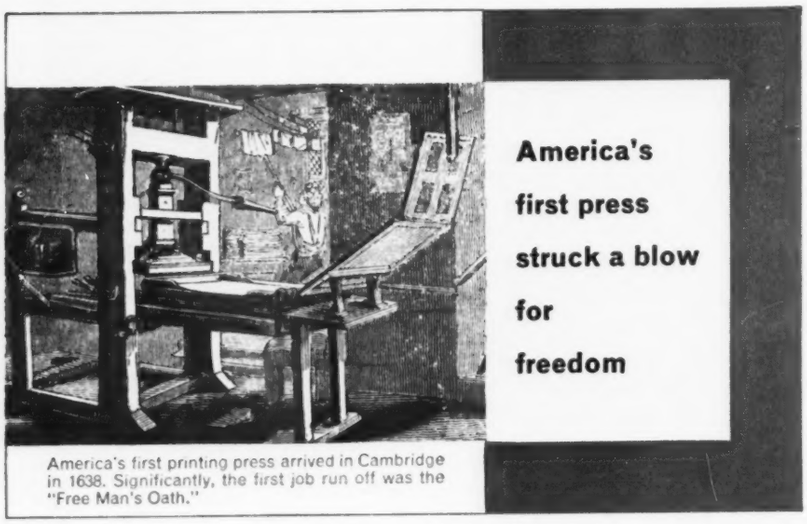


America's first printing press arrived in Cambridge in 1638. Significantly, the first job run off was the "Free Man's Oath."

America's first press struck a blow for freedom

Today's high-speed, high-fidelity printing demands the best makeready . . . starts with

Cromwell HIGH-FIDELITY TYMPAN specially prepared

Known everywhere for:

- more impressions, fewer changes
- extra-hardness, extra-toughness
- uniform texture, free from high and low spots
- absolute resistance to oil, moisture, cleaning solvents
- lowest cost in the long run . . . even for short runs

A sample is our best salesman. Ask for working samples for your press—letterpress or offset.

Unconditionally guaranteed. Clipped, scored and trimmed for *your* press make. Ask your Cromwell jobber.

Cromwell PAPER COMPANY

Cromwell Paper Company
4801 South Whipple Street • Chicago 32, Ill.
Send working samples of Cromwell Special Tympan to me without charge or obligation.

Name_____

Firm Address_____

City_____ Zone____ State_____

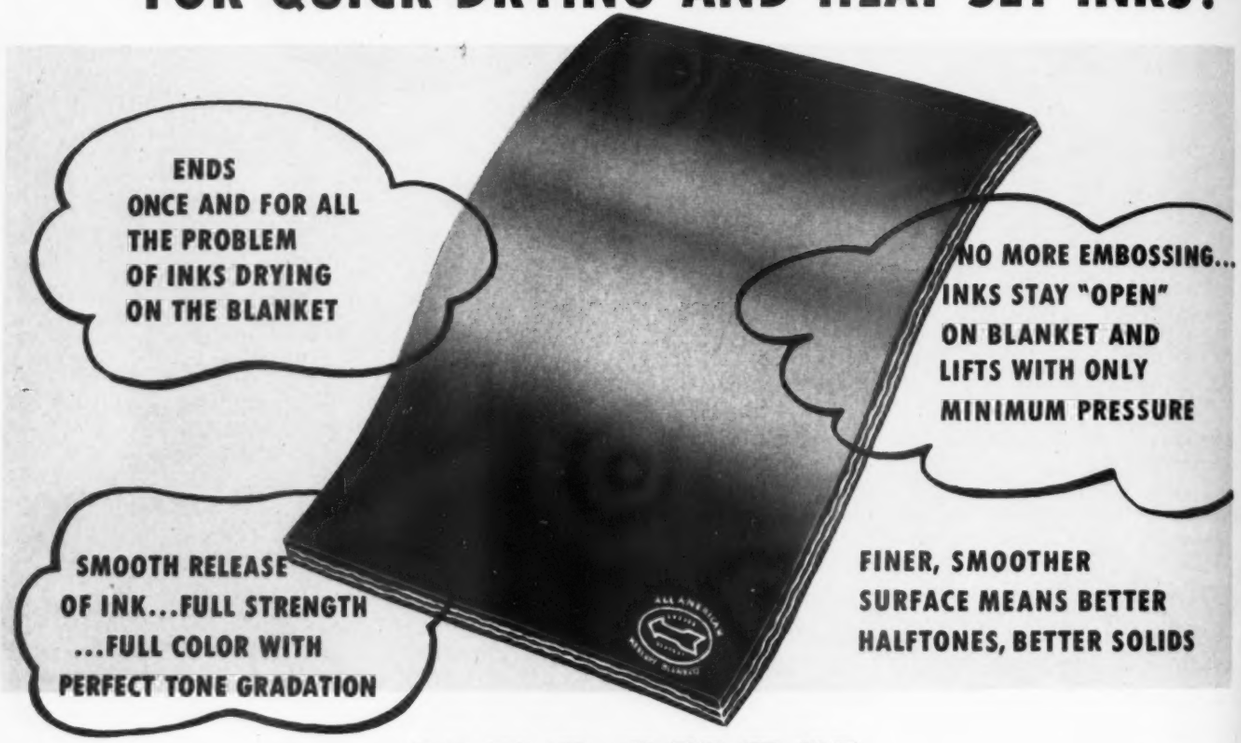
Press Make_____ Top Sheet Size_____

Check: ☐ Square Cut ☐ Clipped ☐ Scored

NOW
PLAN FUTURE
PROFITS
The form printing press
which you buy today will
be a vital part of your
operation for many years
to come! Make no mis-
take about it!

NEW

THE NEW MERCURY BLANKET FOR QUICK-DRYING AND HEAT SET INKS!


ENDS ONCE AND FOR ALL THE PROBLEM OF INKS DRYING ON THE BLANKET
NO MORE EMBOSSING... INKS STAY "OPEN" ON BLANKET AND LIFTS WITH ONLY MINIMUM PRESSURE
SMOOTH RELEASE OF INK...FULL STRENGTH ...FULL COLOR WITH PERFECT TONE GRADATION
FINER, SMOOTHER SURFACE MEANS BETTER HALFTONES, BETTER SOLIDS

MERCURY BLUE STREAK BLANKETS

THE PERFECT COMPANION FOR THE REVOLUTIONARY MERCURY BLUE STREAK ROLLERS

RAPID ROLLER CO. · FEDERAL AT 26th ST. · CHICAGO 16, ILL.

EASTERN OFFICE: 800 McCARTER HIGHWAY · NEWARK, NEW JERSEY

Headliner®

SPEEDS DELIVERY OF

THE WALL STREET JOURNAL

Every segment of business reacts quickly in response to economic and political factors at home and abroad.

Contributing to stability and successful management is THE WALL STREET JOURNAL, published daily by Dow Jones & Company, the world's largest business news gathering agency.

Four complete regional plants—in New York, Chicago, San Francisco and Dallas—print distinctively made-up, easy-to-read newspapers containing all the news of and affecting all types of business, as well as complete financial tables. This news is flashed from bureaus in 17 key cities, special correspondents in 89 centers and the four major press associations.

THE WALL STREET JOURNAL's circulation has risen steadily. Total ABC net paid circulation, as of March 31, 1954 was 295,367.

Since the Midwest edition was started January 1, 1951 (when THE WALL STREET JOURNAL took over the *Chicago Journal of Commerce*), its national circulation has increased 62%, and continues to gain rapidly.

This edition is printed in one of the most beautiful and functional newspaper buildings in the United States. The compact mechanical arrangement is the major factor in speeding up-to-the-minute business news to readers. The central equipment is the new HEADLINER press—four units and Uniflow folder, with Goss Reels-Tensions-Pasters. The HEADLINER gives insurance that double the present midwest edition circulation can be handled with the same efficiency as now.

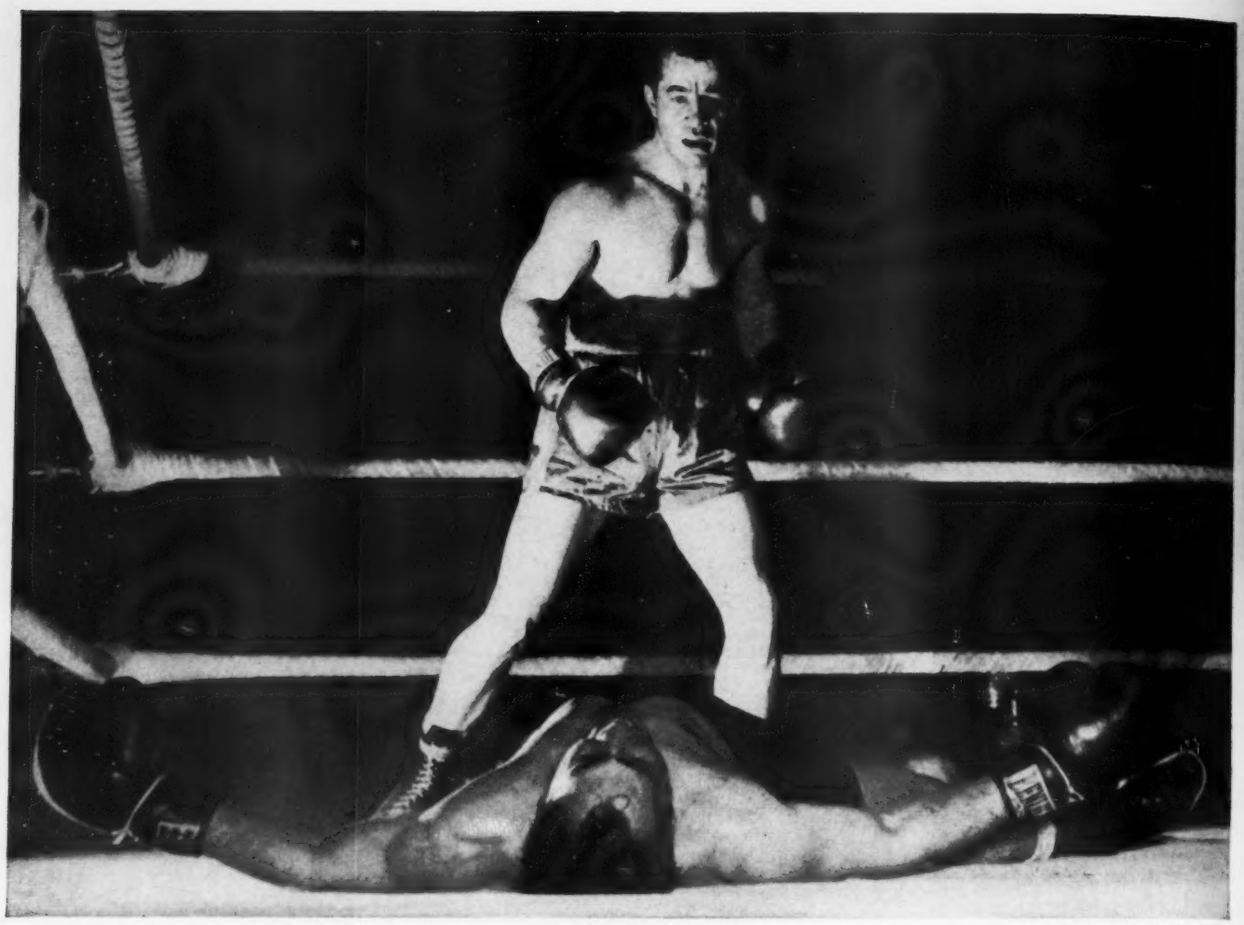
The expanding West Coast and Southwest editions of THE WALL STREET JOURNAL also are printed on Goss-Duplex presses.

GROW WITH GOSS

THE GOSS PRINTING PRESS COMPANY

5601 West 31st Street • Chicago 50, Illinois

WORLD'S LARGEST MANUFACTURER OF NEWSPAPER, MAGAZINE AND ROTOGRAVURE PRESSES



Photograph by DAVID BIER.

Simple 3-step direct printing with Scan-a-gravings

IMPROVES REPRODUCTION QUALITY

You can get sharp, clear reproduction of prize-winning pictures like this, and capture the reader's attention and interest, with direct-printed Scan-a-gravings. Scan-a-gravings are electronically-engraved halftones that can be curved to mount directly on the stereos—no details or time are lost through the matting and stereotyping process.

Mats are rolled with blanks inserted in the page form, and the plastic halftones are mounted securely on the stereo with double-faced Scotch tape. There is no waiting for cuts when you use Scan-a-gravings.

•If you need faster and better quality reproduction, Scan-a-gravings can help you. For complete information write *Fairchild Camera and Instrument Corporation, Robbins Lane, Syosset, Long Island. Dept. 100-80E 1.*

FAIRCHILD
SCAN-A-GRAVER

A sectional view of the printing department in the air-conditioned Vandercook Research Laboratory, showing some of the equipment loaned for letterpress research by the American Type Founders, Inc. — Caine Manufacturing Company — Craftsman Line-Up Table Corp. — Fairchild Camera & Instrument Corp. — Hammond Machinery Builders, Inc. — Mergenthaler Linotype Co. — Miehle Printing Press & Mfg. Company — Miller Printing Machinery Company — The Morrison Company — The Printing Machinery Co. — Paasche Air-brush Co. — Taylor Machine Co.

Pre-Press vs. Pre-Makeready . . .

We adopted the term "Pre-Press" rather than "Pre-Makeready" because our program to help letterpress is based on *makeready reduction*—not the transfer of makeready to another department.

With the Vandercook Pre-Press System, the work of proper form preparation is performed *before* going to press—in less time than it can be done in an unscientific manner on the press. This results in a double saving—the greatest of which is in the pressroom where it counts most.

You are invited to visit our laboratory at 3601 West Touhy Avenue, Chicago 45, Illinois, by appointment, for a practical demonstration. Our phone number is ROgers Park 1-2100.

E. O. Vandercook
President and Research Director
VANDERCOOK & SONS, INC.

VANDERCOOK PRE-PRESS SYSTEM

CHICAGO NEW YORK LOS ANGELES LONDON

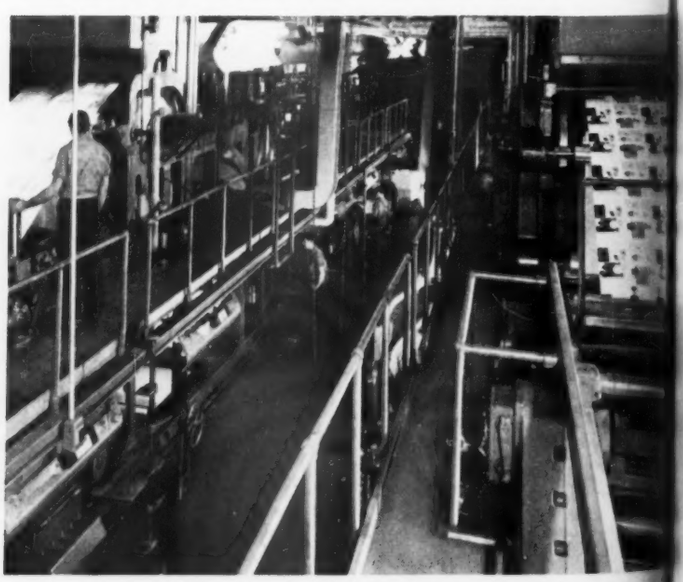
WANT BETTER UNIT DRIVE

CUTLER-HAMMER UNIT CONTROL SYSTEM FOR WICHITA (Kansas) EAGLE

R. Hoe & Company press, 4 units and one folder at present. Printing capacity, 45,000 copies per hour. Two additional press units with Cutler-Hammer Control Units are now being added.

MILLIONS OF MAGAZINES A MONTH

The C. T. Dearing Printing Co., Louisville, Ky., produces more than 30,000,000 copies of a dozen or more leading magazines a month on two Cottrell 5-color presses and two Goss magazine presses. These four presses represent $2 million worth of precision equipment. They are completely equipped with Cutler-Hammer Drives and Control.



CUTLER-HAMMER
MOTOR CONTROL
C-H

PRESS PERFORMANCE?

Keep it simple–Keep it sturdy

KEEP IT CUTLER-HAMMER

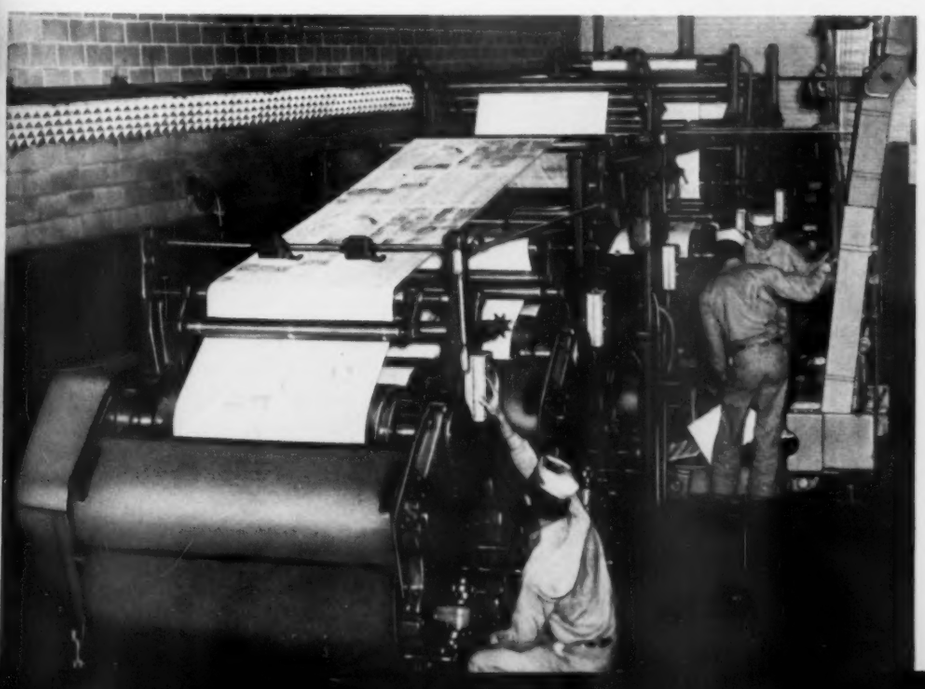
It makes sense . . . and it makes money . . . to look for the simplest and most dependable unit newspaper drive and control.

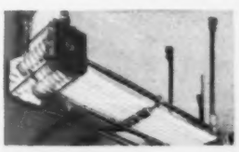
This hard common sense is leading more and more experienced newspaper men to the Cutler-Hammer Unit Control system for unit drive motors on their new unit presses. This is a *paired* system . . . simple, sturdy, trouble-free unit a.c. wound rotor motors *paired* with Cutler-Hammer Unit Drive Control made up of simple, sturdy industrial type control components known to every plant electrician . . . and together giving you the fundamental needs. Easy inching and threading, smooth acceleration to maximum press running speed, high efficiency at running speed, perfect synchronization of motors, long life, freedom from trouble, flexibility . . . all these are yours together with specific Cutler-Hammer superiorities. There's the new C-H cam drum accelerating device with 72 speed points. There's the fact that inching and threading *don't* draw current through the unit drive motors. There's freedom from troubles such as changing load adjusting resistor switches, unbalanced loads, circulating currents and excessive peaks. *And your own electrician can service this drive and can service this control.*

The C-H Representative has a dramatic and compelling story to tell. See him before you buy. CUTLER-HAMMER, Inc., 1460 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER ELECTRONIC CONTROL ON SINGLE MOTOR DRIVE FOR NEWSPAPER PRESS AT BILOXI-GULFPORT (Miss.) HERALD

Another one of the many highly successful Cutler-Hammer installations in publishing plants of this size.





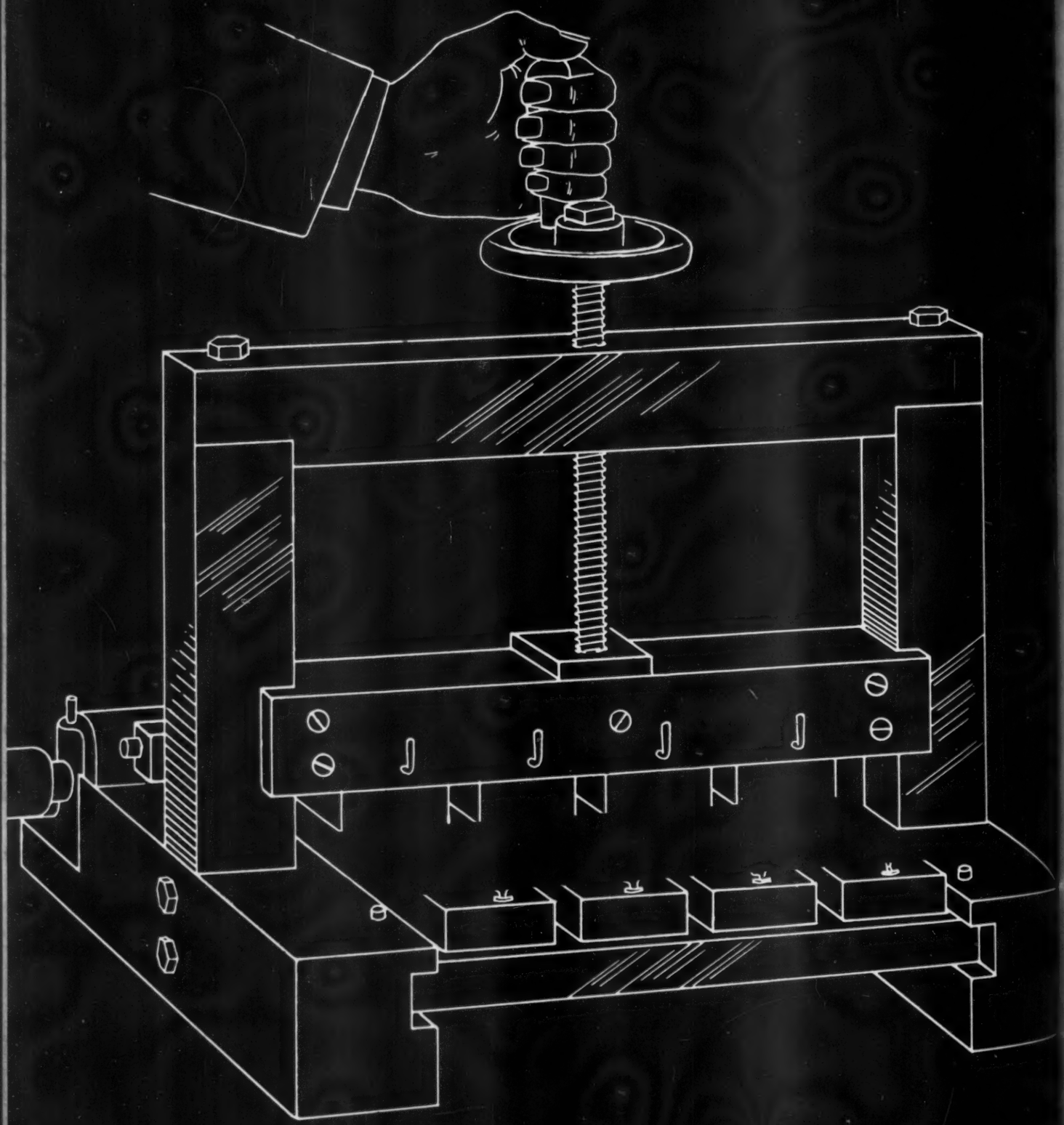
CUTLER-HAMMER NEWSPAPER CONVEYORS

Used in practically every conveyor-equipped plant in North America. Standard Duty handles up to 56 pages at any speed up to 60,000 I.P.H. Heavy Duty handles up to 96 pages at any speed up to 60,000 I.P.H.

CUTLER-HAMMER CYLINDER BRAKES

Stop presses safely in approximately 3 seconds, completely relieving gearing of excessive forces and harmful shocks. Each brake individually adjustable, yet automatically coordinated with other brakes.

CUTLER-HAMMER
MOTOR CONTROL
C-H



Here's a new quality-control tool for IPI inks which measures and helps to reduce costly plate wear

An important—but often overlooked—factor in metal plate wear comes from the abrasive action of some pigments due to their inherent characteristics or to the presence of impurities.

This IPI Plate Wear Machine was developed to simulate actual plate wear during a typical commercial press run. It enables our ink experts to measure and compare accurately the abrasive qualities of one ink with another, and to determine the amount of plate wear caused during simulated press runs.

Thus, a new scientific yardstick allows us to check and improve constantly upon our choice of pigments most suitable for longer plate life.

Such traditionally high standards of IPI quality control help increase the quality mileage of your plates during long press runs, with sharper, cleaner printing—at lower plate costs.

IPI service at work for you

Printing plants of all sizes are invited to use IPI's complete ink service facilities in printing centers from coast to coast. Each local IPI service station and branch is staffed by local experienced ink men, well-seasoned in the special printing problems of each locality. They are always on call to help you solve any printing problems—large or small—that may arise. For prompt ink service with a personal touch, contact IPI.

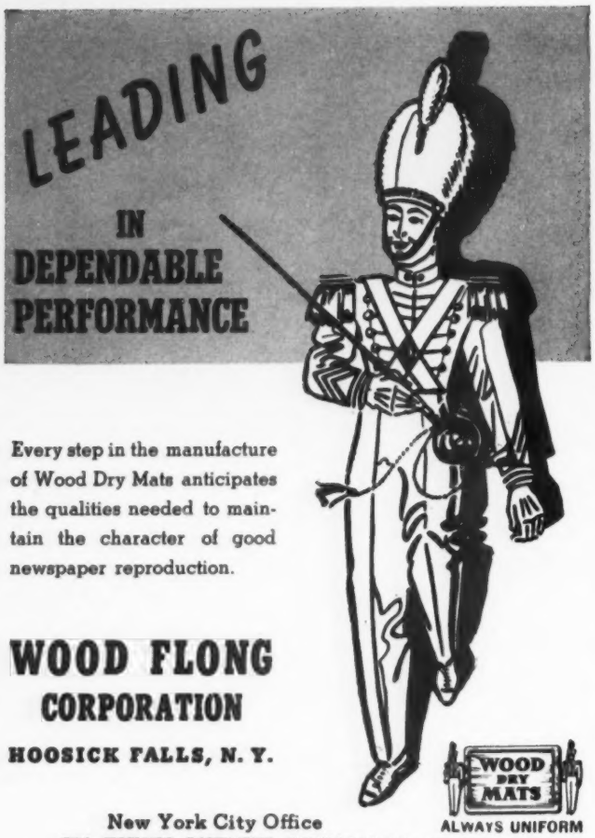
IPI and IC are trade-marks of Interchemical Corporation

Interchemical Corporation

PRINTING INK DIVISION • 67 W. 44th ST., NEW YORK 36, N.Y.

INTERCHEMICAL PRINTING INKS

RELY ON IPI FOR LEADERSHIP IN INK RESEARCH



Every step in the manufacture of Wood Dry Mats anticipates the qualities needed to maintain the character of good newspaper reproduction.

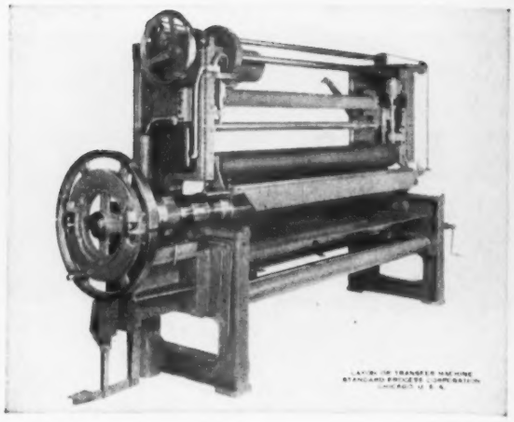
WOOD FLONG CORPORATION

HOOSICK FALLS, N. Y.

WOOD DRY MATS

ALWAYS UNIFORM

New York City Office
551 FIFTH AVENUE, NEW YORK 17, N. Y.



ROTOGRAVURE
PRECISION LAYON MACHINE

Manufactured in a wide range of sizes for transferring carbon tissue in perfect register to any number of cylinders. This is accomplished by means of a definite key between copy and cylinder, a positive method of fixing the cylinder in the machine and a device for checking accuracy of its position so it can be re-positioned any number of times. A lock on the dividing head secures the cylinder in position. The rubber impression roll is raised and lowered by a gear motor with pressure against the cylinder regulated by an adjustable control. Equipped with counter-balanced register bar, Vernier scale and scribe.

STANDARD PROCESS CORPORATION
Manufacturing Gravure Equipment & Supplies
2704 W. Roscoe Street • Chicago 18, Ill.

Equipment & Supplies

(Continued from Page 12)

pipe fittings directly in the ink reservoir (fountain) or in the exit line to the fountain. The probe is connected to an electronic computer which translates the damping effect of liquids on the vibrating reed of the probe into viscosity information. More information may be obtained by mentioning PEE No. 280 in your request.

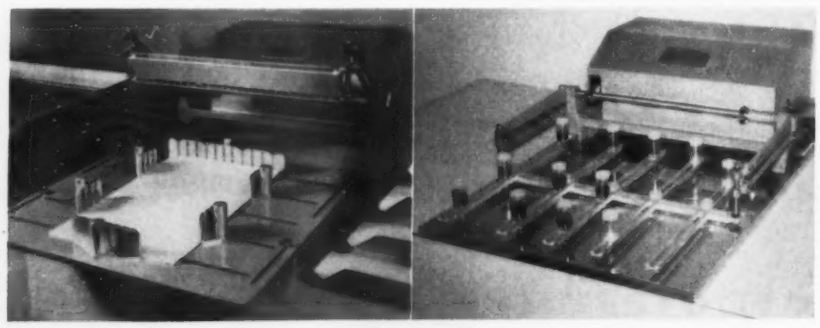
Guide and Glue Spotter for Tipping Machine

Pierce Specialized Equipment Co. has announced a guide system for its Tipmaster All-Electric Glue Tipper. Sponsor claims the guides permit faster tipping of carbon interleaved forms. The guide arrangement consists of an extendable feed board and post and angle type guides. According to the sponsor, the arrangement provides register on all four sides of nearly all sizes of one-time carbon forms.

The feed board may be extended to accommodate larger sheets and retracted for the tipping of small forms. The design provides up to 9 in. between the tipping line and the back guide for doing deep tipping work or handling fold over statements. The air-grooved angle guides and post guides are made of polished anodized aluminum and are locked in position by turning.

Pierce has also announced an accessory for the Tipmaster Glue Tipper which, it states, permits placing glue dots nearly anywhere within an 18 in. square area. To be known as the Multi-Tipper, the assembly consists of adjustable slides and individual glue tippers that may be arranged for irregular tipping patterns.

The Multi-Tipper is designed for tipping small snap-out forms, and on such specialties as Christmas cards, calendars, etc. More details may be obtained by mentioning PEE No. 298 in your request.



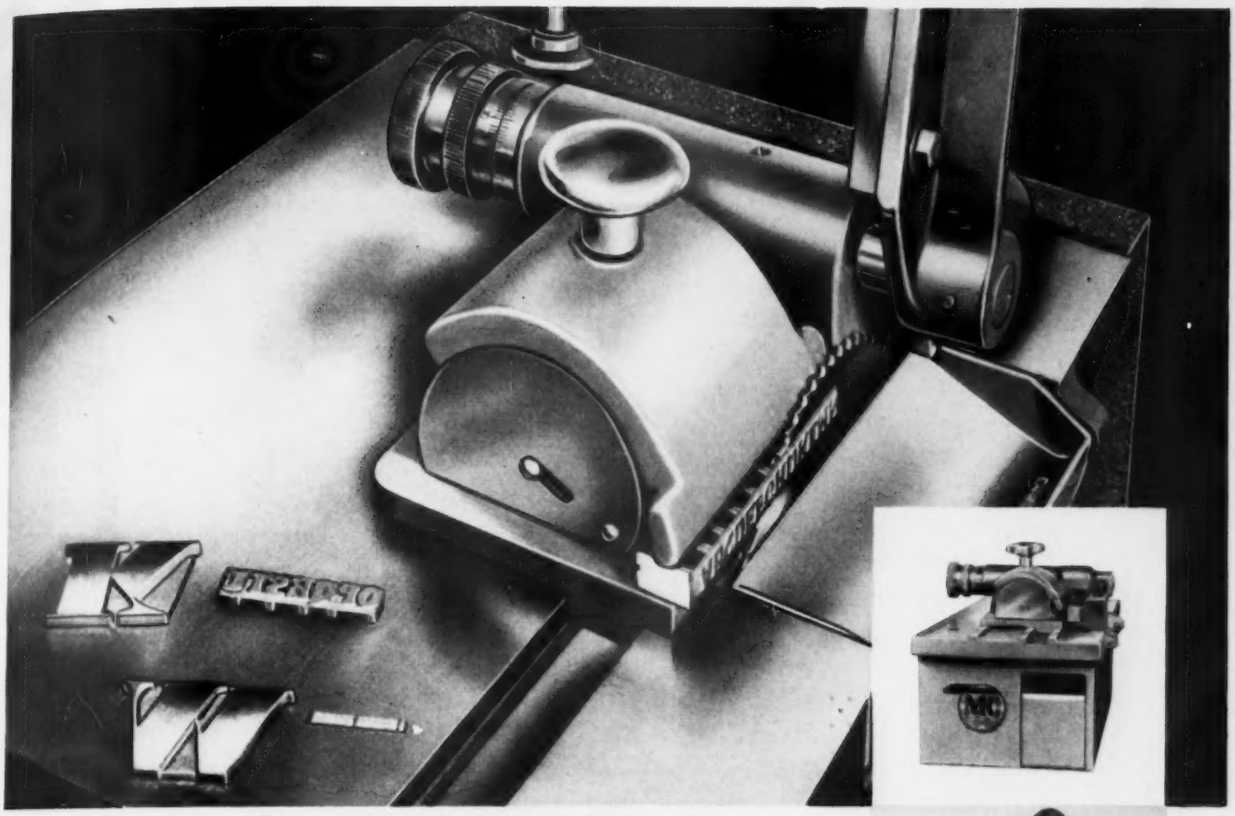
At left is the guide arrangement included on the latest model Tipmaster All-Electric Glue Tipper by Pierce Specialized Equipment Co. Sponsor claims the guides permit faster tipping of carbon interleaved forms. At right is the Multi-Tipper, an accessory for the Tipmaster machine which is designed for placing glue dots nearly anywhere within an 18 in. square area.

Link-Belt Catalog — A 340 page catalog of its standard products has been published by the Link-Belt Co. Included in the catalog are listings for chains and sprockets for conveying, elevating and power transmission. Other sections deal with enclosed gear drives, transmission products and conveyor components. Under the latter category, parts for screw conveyors, belt conveyors, Flexmount oscillating conveyors and bucket elevators are shown. Capacity charts and dimension tables are also included among its contents. The new literature, to be known as Catalog 950, has a flexible cover and is thumb indexed. Request your copy by referring to PEE No. 287 in your letter.

Powerfix in 5 Gal. Drums

Chemco's Powerfix, a clearing-fixing bath for photographic processing, is now available in non-returnable 5 gal. con-

(Continued on Page 26)



ANNOUNCING...

New MORRISON SLUG STRIPPERS in BENCH and CABINET Models

Save up to 75% of Compositors' Time . . . Plate Corrections, Special Composition, Angle Lines added WITHOUT MORTISING

Now, with the development of the new BENCH Model, even the smaller plant can take advantage of the Morrison Slug Stripper time-savings! If you use zincs, stereos, electrotypes or other plated materials, corrections, angle lines of composition, prices, key numbers, captions, and similar plate changes are *simple* — without mortising or cutting your base plate. With a Morrison Slug Stripper, you merely cut the letter characters from line-composing or Ludlow slugs, or type, rules and borders — to height needed — then tack, cement or tape them into position. There's no time wasted in mortising or cutting the base plate! It's a great time saver!

New MORRISON CABINET MODEL SLUG STRIPPER

Complete self-contained unit with built-in waste receptacle, micrometer gauge, slug-holding clamp, lighting fixture, saw blade and ¼ H.P. A.C. motor. Trims to any height — from 16-gauge, 0.065" thick for metal-mounted photo-engravings, to 0.105" and 0.152" for electros and shell stereo casts.

New MORRISON BENCH MODEL SLUG STRIPPER

Priced and designed to meet minimum requirements. Can be placed on any suitable stand or work surface, using only 11" x 19" of bench space. All working parts are identical and interchangeable with the Cabinet Models. Equipment includes: Slug-holding Clamp, Micrometer Gauge, Saw Blade, Chip Drawer, and ¼ H.P. 115 volt, 60 cycle, single phase motor. Handles slugs ranging from 1 point to 72 points, and from single character up to 30 picas in length. An important time-and-labor-saver at surprising low price.

Prove Morrison Slug Stripper versatility and time-saving in your plant! Write today for latest bulletin and prices.

Other Morrison Equipment Includes: Saw Trimmers, Router and Type High Planers, Plate Bevelers, Strip Material Cabinets, Waste Receptacles, Universal Saw Blades, Router Bits, Jig Saw Blades.

Symbol of Operating Economy

THE MORRISON COMPANY MILWAUKEE WIS.

THE *Morrison* COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. Melvina Street, Milwaukee 12, Wisconsin

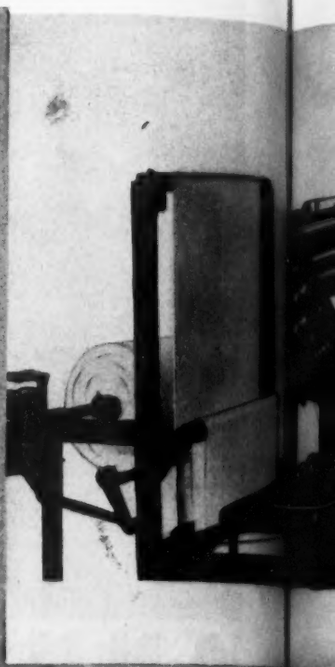
Are you losing BUSINESS

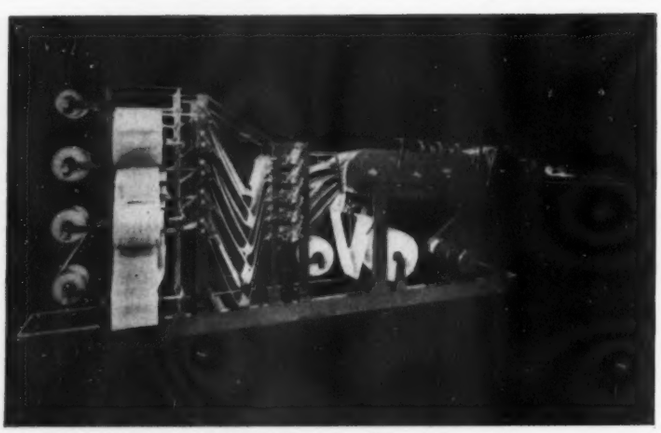
You may be doing just that every day—losing business on forms your present equipment can't compete for. ATF makes the broadest line of special presses designed to produce business forms at low cost.

With the world's broadest line to choose from, you'll find any general-duty or special business forms press you need at ATF. You can number, imprint, perforate, line-hole or teletype-punch, carbon spot, carbon interleave, and deliver in flat sheets, zigzag packs, folded forms or rewind—*right on the press.* Talk about production! You get guaranteed 15,000 revolutions or complete sets per hour.

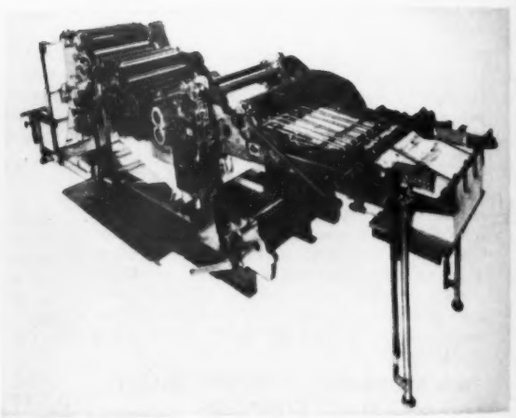
ATF Webendorfer web-fed know-how is at your disposal. Our engineers are glad to discuss your specific requirements and the custom features that will meet them. Write for our new illustrated brochure on web-fed business form presses and machines. AMERICAN TYPE FOUNDERS, Mount Vernon Division, *a subsidiary of Daystrom, Inc.*, Mount Vernon, N. Y.

W.42





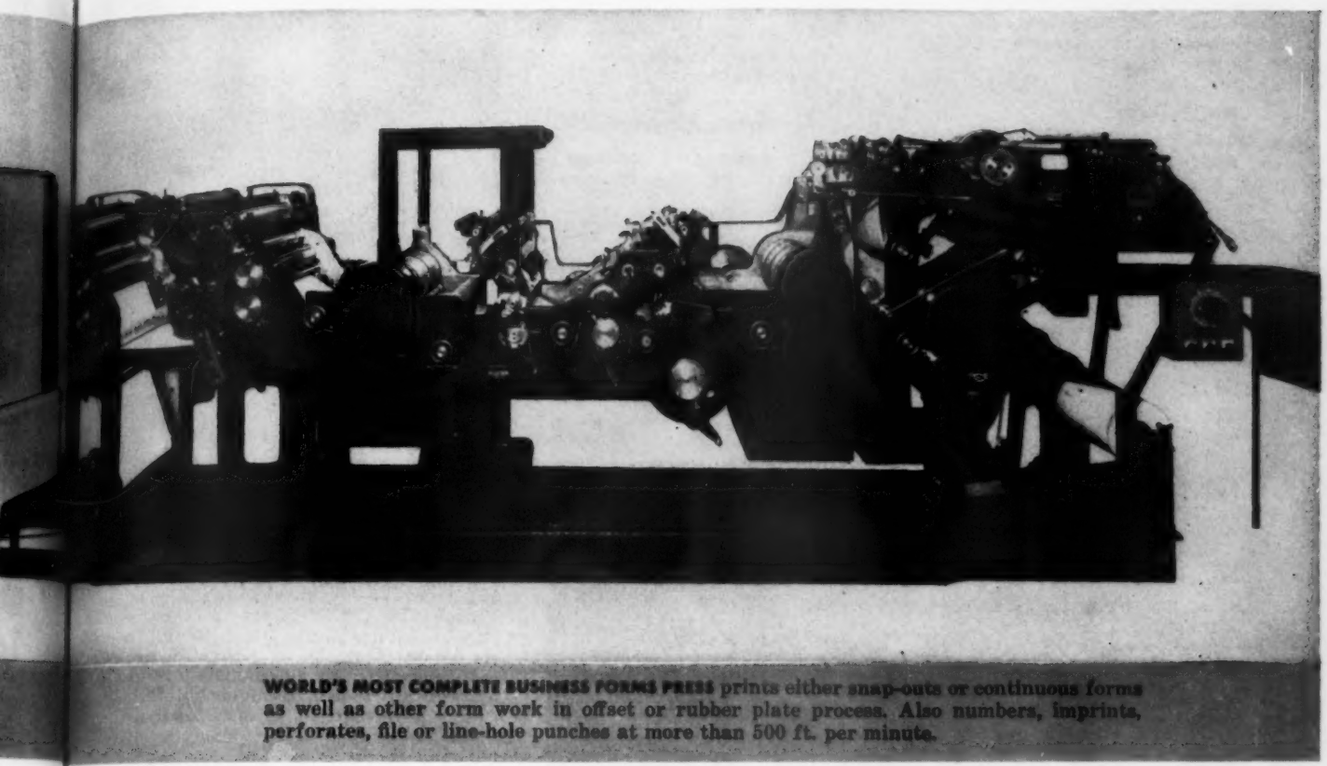
EIGHT PARTS OF PAPER interleaved with seven carbons—come off this ATF rotary collator. Machines which can produce up to 12,000 8½ x 11 sets per hour are available. Continuous form collators, section collators and printing collators also available to register, collate, glue, perforate and cut off finished forms.



SLOW-DOWN FLAT SHEET DELIVERY uses tapes to slow down sheets coming off press at high speeds, to pile delivery. Other available deliveries include former folder for fold-over statements, zigzag folder for continuous forms, and rewind rolls.

ATF'S NEW MOUNT VERNON PLANT for production of web-fed offset, flexographic rotogravure and paper converting machinery.

S FORMS printing...



WORLD'S MOST COMPLETE BUSINESS FORMS PRESS prints either snap-outs or continuous forms as well as other form work in offset or rubber plate process. Also numbers, imprints, perforates, file or line-hole punches at more than 500 ft. per minute.

ATF Webendorfer Engineering Know-How gives you:

Custom-built line of business form presses

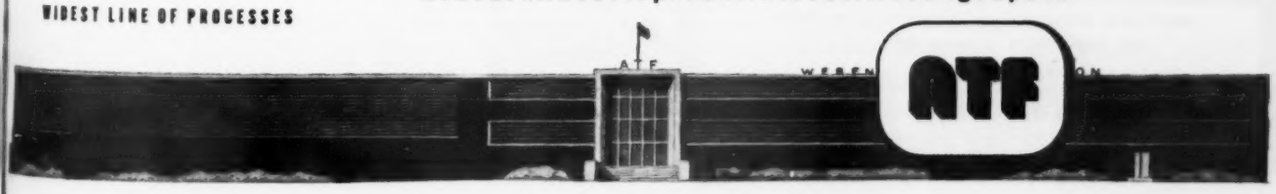
- General duty, check-, sales- or blank-book presses
- Wet or dry offset, rubber plate and/or stereo printing
- Zigzag or former folder, rewind or flat-sheet delivery
- Snap-out, continuous, printing and sectional collators

Trouble-free flexible operation

- Automatic tension and paper infeed control
- Automatic infeed brake mechanism prevents web breakage
- Running and side register controls between all units
- Simple adjustment for accurate roller setting
- Combination numbering and imprinting unit
- Teletype or line-hole punching unit precision engineered
- Cross and vertical perforators
- Tab cutting and skip perforation

BETTER, MORE PROFITABLE PRINTING FROM THE WIDEST LINE OF PROCESSES

Gravure..Letterpress..Offset..Flexographic



Equipment & Supplies

(Continued from Page 22)

tainers, it has been announced by Chemco Photoproducts Co. The drum is furnished with pouring spout and re-sealing cap. Sponsor claims Powerfix clears negatives faster and lasts longer. For further information, please mention PEE No. 295 in your request.

Red Book Reissued

Byron Weston Co., paper manufacturers, has reissued the Byron Weston pocket size Red Book. In it are listed important reference data on stock sizes, weights and colors for all Weston papers including all rag and rag content bonds, ledgers, index bristols and related specialties under the Weston watermark. In its revised form, the new Weston Red Book contains, in addition to charts of stock specifications, recommendations and suggestions for the use of various Weston papers, mill practices and standards, an interesting picture-caption story on how paper is made, how to select paper for specific purposes plus a dictionary of paper making terms. Please mention PEE No. 317 when requesting a copy.

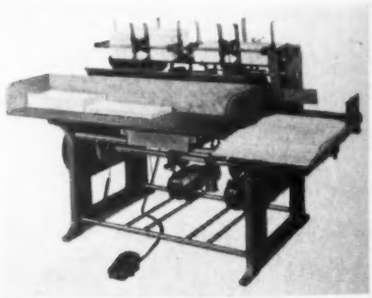
Flammable Liquids Storage Cabinet

A specially constructed cabinet has been announced by The Protectoseal Company which provides safe overnight or weekend storage of up to 45 gals. of flammable liquids in containers. The cabinet is of steel construction through-

out with riveted and spot welded double walls of 18 ga. terne plate and an air space of 1½ in. between all walls. It is equipped with three steel shelves and a double door. The doors are equipped with a spark-proof 3-point lock with key and all closure contact points are non-sparking, according to the sponsor. The door sill is raised 2 in. above the bottom of the cabinet and, the sponsor claims, is liquid tight to this point. Stenciled lettering on the doors reads as follows: *Flammable — Keep Fire Away.* Vapor venting of the cabinet may be obtained by means of two vent openings of 2 in. standard pipe size which are located near the top of one outside wall and close to the bottom of the opposite outer wall. Vent openings are equipped with screw caps and fire screens. Overall dimensions of the cabinet are 43 in. by 65 in. by 18 in. deep. Net weight is 380 lbs. More information is available by referring to PEE No. 290 in your request.

Simplex 2-up Tipping Machine

The Simplex 2-up Tipping Machine, announced by Robertson Brothers, Inc., will handle work ranging in size from 4



in. by 6 in. to 8½ in. by 18 in. Sponsor states operating speeds range from 70 to 100 pieces per min. The Robertson firm says it is designed for handling all outside tipping jobs. The machine is equipped with a start-stop foot pedal designed to leave the operator's hands free for the tipping operation, stock loading, etc. Other features of the machine include rotary pasting, controlled alignment and air separation. Standard equipment includes motor, pumps, feed table and delivery. For more details,

(Continued on Page 32)

The truth about type metals

They are *not* all the same. It *does* make a difference from which company you buy them. You want *service* when you buy type metal. Federated gives you . . .

1. Expert technical help in your shop when you want it.
2. Dross drums to help you economize by using the Federated Mor-Tin Plan for toning your metal.
3. Helpful literature like "How to Save Money on Type Metals" and a cartoon style wall chart on Re-melt Practice.
4. 24 sales offices and 14 plants across the nation for your convenience in ordering and delivery.

See Federated first for *all type metal needs.*

Federated Metals Division

AMERICAN SMELTING AND REFINING COMPANY
120 BROADWAY, NEW YORK 5, N. Y.
In Canada: Federated Metals Canada, Ltd., Toronto and Montreal

Aluminum, Magnesium, Babbitts, Brass, Bronze, Anodes, Zinc Dust, Die Casting Metals, Lead and Lead Products, Solders, Type Metals

Star improved type

Distributor Box Bar and Second Elevator Bar

ABOVE: SECOND ELEVATOR BAR

LEFT: DISTRIBUTOR BOX BAR

Greater sales volume means lower production costs. That's what has happened with the STAR Improved Bars for Distributor Box and Second Elevator. These Bars, with only three *tapered* steps, have become so popular that the price is now no higher than the STAR price for ordinary bars.

It's the front-to-back taper that cuts matrix replacement costs, since a more perfect fit is made possible. This means the matrix slides more smoothly into the distributor box, without the tooth combination wear caused by old-style bars.

Damage to the bars themselves is almost impossible because there are no fragile tooth points to break off. All STAR Distributor Box Bars have the quick change bar points. What used to be a tricky 30-minute job, is now merely a matter of loosening a screw, replacing the point and tightening up again.

STAR Improved Bars are economical to purchase, are easy on your matrices and precision manufactured for long life. Write today for folder which explains all the details.

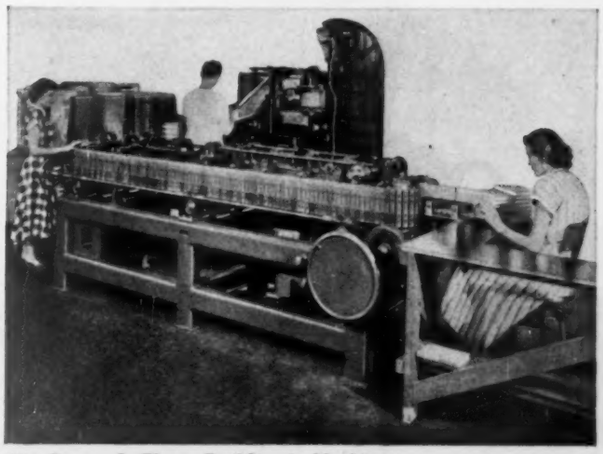
Precision TRADE ★ MARK Parts

BRANCH 1327 BROADWAY, KANSAS CITY, MO.
AGENCIES CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • BOSTON
CANADA SEARS LTD. and Agents Overseas

LINOTYPE PARTS Company, inc.

SOUTH HACKENSACK, N. J.

Building in hard cased books and delivering the finished product at up to two thousand an hour



The Dexter-de Florez Building-in Machine.

Books fresh from casing-in machine (in background) are fed into compression belts. Parallel nippers, heated under thermostatic control and adjustable for pressure, iron hinges as books move along.

Using the conventional methods, eight to ten hours is a fair estimate of the time it takes to build in each batch of hard-cased books.

It requires that long for paste to set and hinges to be formed. To this you must add the time and labor costs of stacking and unstacking, and the investment in boards and their maintenance.

The Dexter-de Florez Building-in Machine delivers the finished books in a steady stream about ten seconds after they are fed into its compression belts.

The machine operates quietly and has a potential of about 2,000 books per hour — to pace the standard casing-in machine. It delivers uniformly creased hinges with paste set into the joints.

Setting up is extremely simple. Size changeover calls for only two adjustments which can be made in about two minutes.

Books may be of any thickness, including case, from 5/16″ to 2-13/16″, from 4″ to 8″ in width and of any desired length.

Our representative is ready to discuss the application of this machine to your needs and to arrange a demonstration. Write for literature.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
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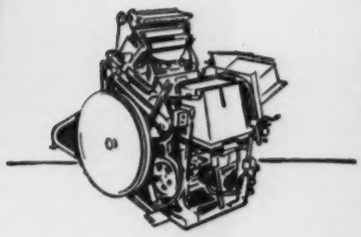
now ready for you
this NEW

NEW CRAFTSMAN



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Rolling off our production lines is a NEW CRAFTSMAN Automatic Press in 10 x 15 and 12 x 18 sizes that produces the finest quality halftone and color printing at speeds up to 4500 per hour.

Over the years since C & P Craftsman Presses were first introduced, thousands of printers have found Craftsman Automatics the most profitable investment they ever made. The many NEW features and outstanding improvements of this NEW press can make this NEW CRAFTSMAN the most productive and profit-making equipment in your plant.

Get Complete Details on this Biggest Advance in Platen Press Design

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Profit-Making Features for Printers

- **Increased Speed**
  10 x 15—4500 per hour
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  Both feed and delivery tables handle 14" pile of stock
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  Both sizes handle sheets as small as #88 card
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- **Prints two-up to register with two-up attachment**
- **Registers to right or left**
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- **Automatic Throw-on when sheet is fed**
- **Prints off any edge of sheet**
- **Prints without use of fountain**
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- **Prints Envelopes in any position**
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- **May be operated with only two upper form rollers**
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- **Four Form Rollers—Two Vibrators**
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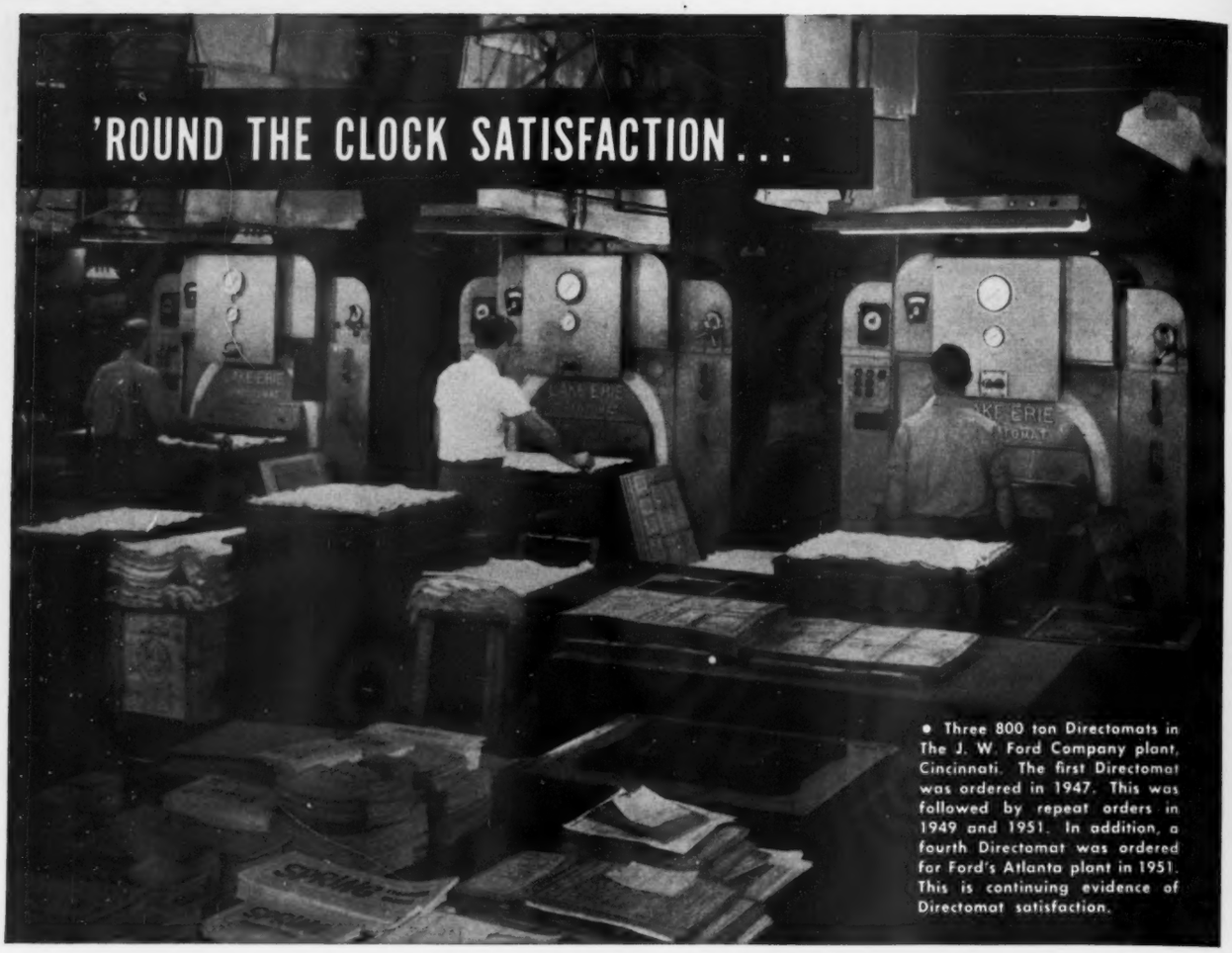
Plus over 50 additional detailed refinements in operation and construction features.



• Three 800 ton Directomats in The J. W. Ford Company plant, Cincinnati. The first Directomat was ordered in 1947. This was followed by repeat orders in 1949 and 1951. In addition, a fourth Directomat was ordered for Ford's Atlanta plant in 1951. This is continuing evidence of Directomat satisfaction.

DIRECTOMATS give superlative performance in THE J. W. FORD COMPANY plants

"Our Directomats operate 2 shifts daily . . . 3 in emergencies. At one period, they ran 24 hours a day for 14 consecutive days without a bit of trouble or delay." These words come from The J. W. Ford Company—typographers, printers and producers of quality newspaper mats. Directomat dependability is a by-word among quality mat makers everywhere. Make it your "buy word" too... for real satisfaction.

◀ The J. W. Ford Company mats are noted for their fine quality. They are distributed throughout the U. S. A. and many foreign countries.

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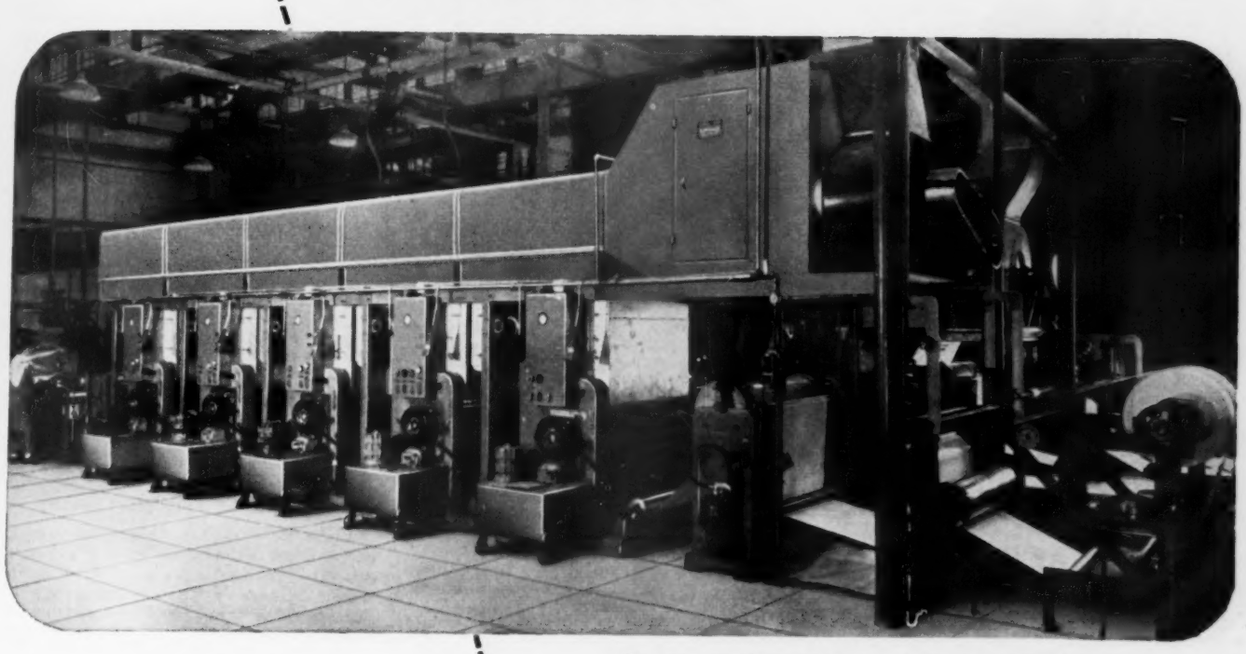
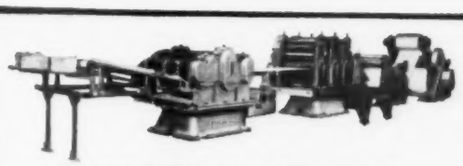


require the **HEAVY DUTY**

Staude "1000" ROTOGRAVURE



STAUDE ROTARY LETTERPRESS

Best known for making paper milk bottles at a production rate of over a quarter million a day. Printing cylinder circumference; maximum 32"; minimum 16"; 26" actual printing width.

STAUDE BUTT SPLICER

makes a perfect splice without stopping the press.

Consider such features as integral assembly for fast changeover . . . 1,000 ft. per minute . . . 360° running register . . . exclusive doctor blade mounting for easy accessibility. Printing width 26" to 42"; circumference 23" minimum; 46" maximum. A letter or phone call will bring complete information on this versatile inline equipment.

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Troubled with Reproduction Problems?

Switch to

BEVERIDGE MATS

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- Sharp Clean Reproductions
- Superb Molding Qualities
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Write for Trial Order Today!

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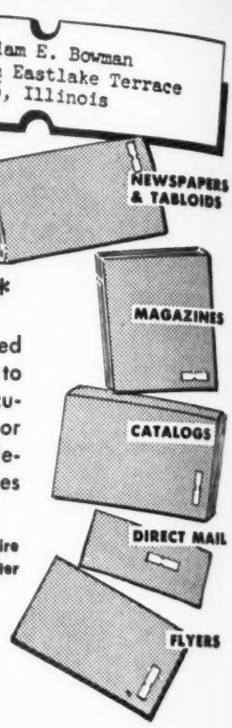
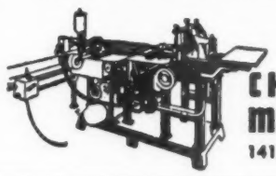
● Automatically attach addressed labels at operating speeds up to 18,000 per hour. Faster, more accurate than any other method, hand or machine. Opens mail room bottlenecks, maintains schedules, reduces subscription complaints.

100,000,000 mailings per month on Cheshire machines. Earlier models still operating after 24 years' constant use.

* An addition to, not a replacement of, your present addressing system. Apply roll strip or continuous pack form labels.





CHESHIRE MAILING MACHINES, INC.

1415-25 W. Altgeld Street, Chicago 14, Ill.

Equipment & Supplies

(Continued from Page 26)

please mention PEE No. 318 in your request.

Hellenic Wide

Bauer Alphabeta, Inc., has introduced an extended foundry type face named Hellenic Wide. The square serif face

Life is w
TRUE V

is available in 10, 12, 14, 18, 24, 30 and 42 pt. sizes. A specimen of Hellenic Wide is shown here. The company offers a four page bulletin containing specimen lines of the type face in its various sizes. For a copy, please mention PEE No. 292 in your request.

Automatic Lubrication Bulletin

A four page, two color bulletin concerned with the automatic lubrication of machinery has been prepared by Bijur Lubricating Corp. Entitled *The A.B.C. of Modern Lubrication*, the bulletin contains illustrations of eight types of automatic lubricators along with a basic description of a typical pump and reservoir assembly. Distribution system details are given, including information on the variety of tubing, junctions and flexible hoses. Also described is the Meter-Unit which regulates the individual flow of oil at each bearing surface. Cut-away view shows the internal construction of filter, metering orifice and check valve. Copies of this bulletin are available by mentioning PEE No. 313 in your request.

Additional Filmotype Fonts

Eight new master fonts consisting of seven hand lettering styles and a font of special signs and symbols have been released by the Filmotype Corporation for use in the Filmotype photolettering machine. Included in the hand lettering faces are two scripts, one modern and

(Continued on Page 58)

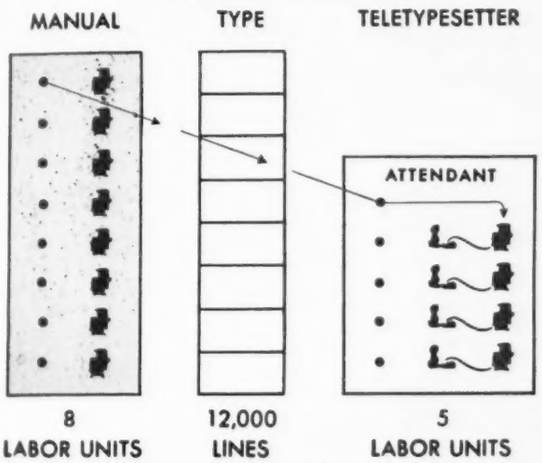
Screen Process Press — Two separate jobs may be printed simultaneously on the General 24 Tandem screen process press recently announced by General Research and Supply Co. Originally developed for greeting card production, the press may also be used for screen process printing on folded, collated and stitched booklets up to ⅛ in. thick. It is designed so that the operator can feed one job with each hand to two different sets of guides. The press can accommodate two different screens and the squeegee is split. Two different jobs can be run at the same time, or the same job can be run two up. Spring loaded grippers enable the press to accommodate pieces which vary in thickness at the gripper edge. Although designed primarily to run small pieces two up, the Tandem press can also be operated as a standard Model 24, handling sheets up to 17 in. by 25 in. with stock weights varying from 16 lb. bond up to 10 pt. cover. When equipped with a cardboard delivery, it will handle up to 40 pt. card stock. Sponsor states the speed of the press is 2500 i.p.h. For further information, please mention PEE No. 304 in your request.

A savings analysis of automatic typecasting

How the addition of a TELETYPESETTER system can cut composing room costs by as much as 40%.

Actual performance statistics show that the addition of a TELETYPESETTER system doubles the output of standard linecasting machines and triples the output of the new high-speed machines. For example, 4 operators and an attendant employing the TELETYPESETTER system can easily match the output of 8 operators employing the older method.

SAVINGS ANALYSIS



In terms of labor units alone, that's a saving of nearly 40%. Additional savings can be made through elimination of overtime and night differentials.

Here's how TELETYPESETTER equipment accomplishes this saving! The system separates the present complex manual operation into two simple elements, namely, composing and typecasting. For composing, the operator is provided a fast, efficient office device called the TELETYPESETTER Perforator. The typecasting is made fully automatic by the simple, dependable TELETYPESETTER Operating Unit.

News, classified ads, and other copy are composed on the Perforator which produces a punched tape. This tape is then fed through the Operating Unit attached to the linecasting machine, and a steady flow of type is produced automatically with a cadence and speed impossible to achieve with manual operation.

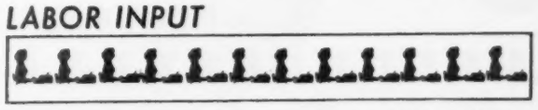
By eliminating the peaks and valleys of stop-and-go manual operation, a TELETYPESETTER system will get at least 400 lines an hour out of a standard machine and more than 600 lines an hour out of a high-speed machine. Compare that with average manual operation at 210 lines an hour!

But speed isn't everything. The efficient use of time is also important. And that's where a TELETYPESETTER system makes another contribution.

During slack periods, tape can be punched for the future and stored until needed. Perforator operators on the day shift can produce sufficient tape to operate the linecasting machines around the clock with consequent savings in night bonus and overtime.

Production Balancing

LABOR INPUT



Perforate Tape — *DAY SHIFT*

AUTOMATIC TYPE SETTING

Set Type — *3 SHIFTS*

With all of its considerable savings possibilities, the cost of a basic TELETYPESETTER system consisting of a Perforator and an Operating Unit is under $4,000.

In this short space, we've tried to outline as clearly as possible some of the advantages of automatic typecasting. Perhaps the most conclusive argument, however, is that more than 1,200 publishers are already profiting from the economies of TELETYPESETTER equipment.

For further information, write to Teletypesetter Corporation, Dept. PE-10, 2752 North Clybourn Avenue, Chicago 14, Illinois.

TELETYPESETTER

Uncle Mat Says:

a a A a a a A a A a a

"THE GREATER THE VARIETY OF TYPE FACES USED, THE GREATER THE VALUE OF MATRIX CONTRAST SERVICE"

In display composition, with its larger assortment of type faces and sorts, the use of Matrix Contrast Colors will give you great savings in linecasting operation . . . a bonus that newspapers and job shops with a variety of type faces receive when adopting Matrix Contrast Service.

When the reference marks are treated in bright contrasting colors such as red, green, yellow, orange, or white, the clear-cut characters show any variation in colors immediately. The occurrence of wrong fonts is eliminated and pi mats are selected with assurance. With the squint taken out of his work, the operator delivers a greater quantity and a better quality of composition.

Take it from your old Uncle Mat...

not one but five persons are pleased when Matrix Contrast Service is installed . . . the operator, the machinist, the employer, the reader, and the advertiser.

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Electronic Color Correction

Acme development makes possible production of up to 8 in. by 10 in., three or four color corrected continuous tone negatives or positives in 1 hour 15 minutes, ready for use by photoengraving, offset or gravure cameraman.

By GEORGE JOS. LENZER

"INCREDIBLE!" "Who ever heard of making a complete set of three or four fully color corrected continuous tone negatives or positives in 1 hr. and 15 min.?" Comments such as these were made by several skeptics when first told about the Acme Color Separator.

The Acme Color Separator is a machine originated by L. A. Thompson, Chief Engineer, Research and Development, Acme Teletronix, Div. of NEA Service, Inc., Cleveland.

In design the color separator cabinet compares favorably with modern office furniture. Being mounted on free rolling composition casters, the entire unit can be moved easily to any desired location.

The unit is 34 in. wide, 70 in. deep, with an overall height of 42 in., and occupies no more floor space than an executive type desk. Operating power is provided by plugging into the nearest a.c. electric current outlet.

Suppose we become better acquainted with this machine by considering the controls, circuits and working elements in order to learn what can be done with the machine, how it is done and why.

Operating Circuits

A Line Voltage Regulation Transformer, *A*, Fig. 1, is housed in the small drawer for the purpose of absorbing any normal variations occurring in the line voltage.

The brain of the circuit system is located in the large panel *F* and *E*. A maze of intricate and complicated electric wiring is connected to the many sockets on the chassis which accommodate the various electronic vacuum tubes, resistors and condensers.

Power supplies and supplementary wiring, completing the activating and operating circuits of the machine, are housed in the large drawers *B* and *C*. The small drawer C_2 is empty and may be used for storage of repair parts, order sheets or for any other purpose.

Six control toggle switches are located at *D*. D_1 is the master switch by which the a.c. electric current is turned off or on. D_2 identified as h.v.2 is the control switch for the 400 v. d.c. circuit, and D_3 identified as h.v.2 controls a d.c. circuit of 1000 v.

Switch D_4 controls the illuminating lamp and D_5 starts or stops the rotation of the viewing and recording drums. D_6 is the lead screw control switch which starts or stops the lateral motion of the scanning and recording elements of the machine.

Color Correcting Adjustment

Two color separating and correcting adjustment panels make up the sloping top face of the machine. Panel *E* controls the scanning operation and panel *F* is for the recording exposure controls.

Attached to the under side of each panel is a series of electronic vacuum tubes wired into a series of direct and relay electrical circuits which are connected to the scanning and recording elements and also to the adjusting knobs and needle meter dials. Individual direct circuits connect the scanning and recording elements, enabling these two units to function simultaneously.

Each set of dial and adjusting knobs carries a specific color designation; E_1 is green, E_2 red and E_3 is blue. On panel *F*, F_1 is yellow, F_2 is cyan; F_3 is magenta and F_4 is black.

All of the adjusting knobs function in a manner similar to the volume control knobs on radio and TV receiving sets. By turning the adjusting knobs, the flow of electrical current can be increased or decreased.

The extent to which the current flow is increased or decreased conforms to a specific gray scale designation and corresponding densitometer reading. When the desired volume is attained, the balance reading will be shown by the needle on the meter dial.

Adjusting knobs E_1, E_2 and E_3, are used to tune to specific degrees or percentages of density. The top knobs tune in the highlights and the bottom knobs tune in the shadows.

When the meter dials at E_1, E_2 and E_3, show a uniform reading, then the transparency copy can be said to be color separated in true balance. If the color transparency copy contains too much of a certain color in the shadow range, the disparity of imbalance in color density can be corrected by tuning the bottom or shadow knob to a weaker density reading.

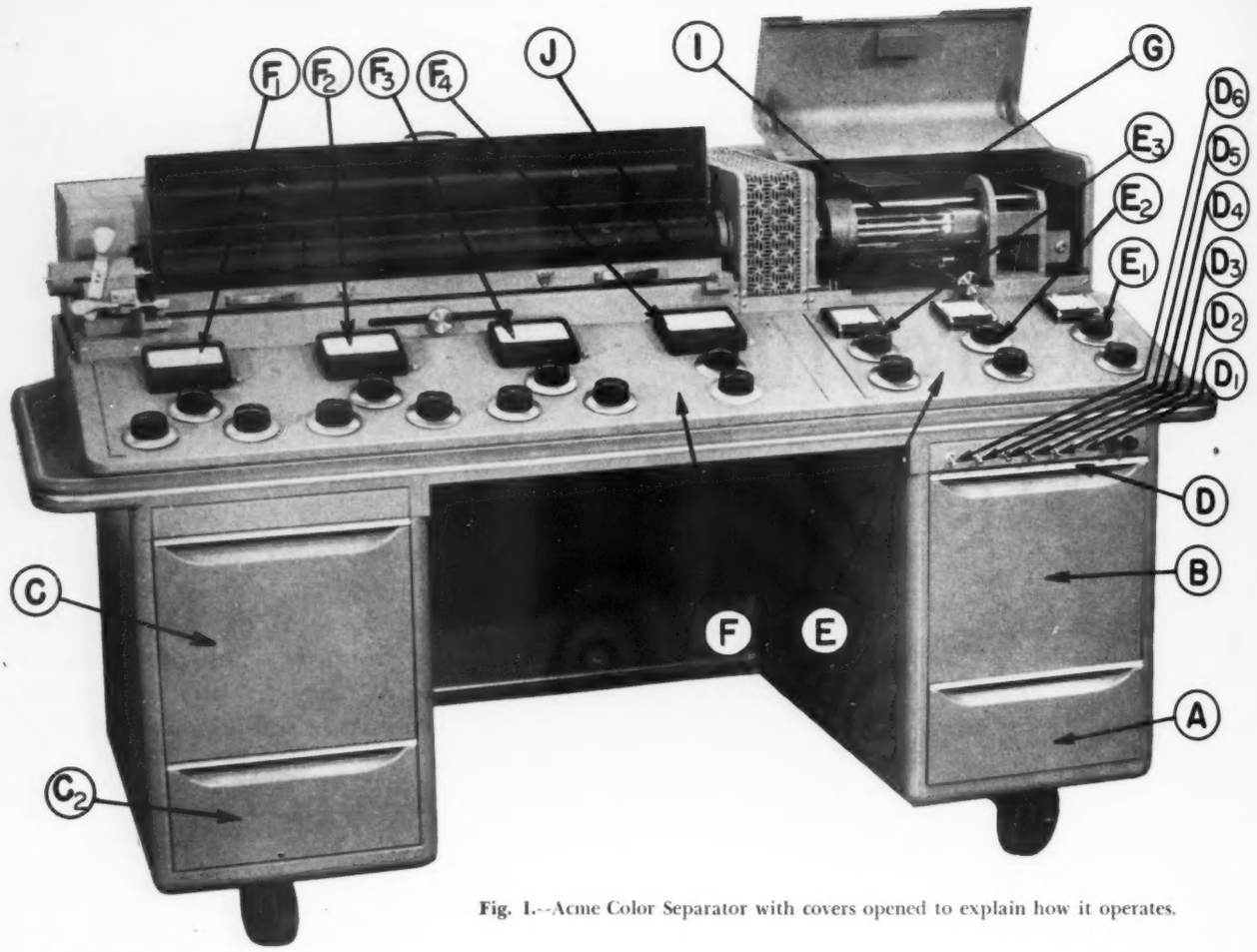


Fig. 1.--Acme Color Separator with covers opened to explain how it operates.

For black, the knobs at F_4 serve the same purpose of tuning in the highlight and shadow areas to conform with the reproduction requirements and densitometer designations. The recorded image may be tuned in to any degree of density from a light, weak ghost image to a solid of the selected neutral density.

The adjusting controls give latitude in the selection of color to be removed under the black printer for newspapers, gravure and offset. Any percentage reduction of color in yellow, cyan or magenta may be used, without affecting the color in other color combinations.

Recording Exposure Adjustment

The tuning knobs at F_1, F_2 and F_3 are color selective. Each of these knobs is a terminal for a specific color circuit of the scanning element, *i.e.*, yellow, magenta and cyan. The color to be recorded on the separation film is tuned on a percentage basis, and by compensation.

The chroma of the color to be recorded is accomplished by tuning in the component electrical color impulses being transmitted by the color scanner. Unwanted or undesirable color can be eliminated by tuning out that particular component.

Consistent with the three point spectral color system, every primary color can be accurately evaluated in true balance with the color being selected by the scanning device. The evaluation is then recorded by the needle on the respective color meter dial.

Here again, when all of the meter dials at F_1, F_2, F_3, and F_4, indicate uniform readings in relation to the balance readings on the scanner dials, then it can be said that the continuous tone negative or positive separation recordings are in true balance with the color transparency being scanned and recorded.

Scanning and Recording

The Scanner—The scanning device *G* is a camera-like metal box in which are housed three electronic light sensitive vacuum tubes, one for each of the primary colors. These tubes are enclosed in movable cylindrical metal covers in each of which is a window opening. Standard Wratten color filters are used to cover the window openings. Wratten filters currently being used are red 25 or 29; green 61 and blue 47B.

A small lens in front of the box is the scanning eye. The eye picks up pinpoint areas of the color transparency and projects the transmitted light against the filter windows where the colored light is broken up into filtered separations or divisions.

Electronic impulses are then transmitted from each of the selecting scanner tubes to their respective tuning knobs on panel *F*, where all control of light fluctuations in the recording elements terminates.

The Recorders—The recorders consist of four metal camera-like boxes in which are housed the exposure light bulbs. In the front of each projection box is fitted a lens, similar to the scanning light lens in the scanner. Pinpoint light rays, corresponding to the pinpoint scanned areas of the original copy, are then projected against the light sensitive emulsion of the photographic films where the color separated and corrected images are recorded.

Intensity of the recording light rays fluctuates proportionately to the transparency or density of the colored transparency copy being scanned and reproduced. As a consequence, the separation negative or positive image is recorded in truly balanced tones of grays and black corresponding to the color tonal variations appearing in the transparency copy.

The recorder boxes, (not shown in Fig. 1) are in perfect alignment with the scanning unit and are housed in a covered enclosure at *H*, Fig. 2.

The Scanning Drum

The scanning drum *I*, Fig. 1, is a rotatable clear glass cylinder of such size and diameter as to permit Ektachrome colored transparency films, up to 8 in. by 10 in. sizes to be attached.

Illumination for scanning is provided by a light bulb inside the glass scanner drum cylinder. This light source is in

direct alignment with the scanning lens of the scanning element.

The Recorder Drum

The recorder drum *J* is a black rotatable cylinder, approx. 32 in. wide with a circumference of approx. 10½ in. Four 8 in. divisional sections are established over the width of the drum. Centrally located, on the face of the drum are attached four, two-way spring type, tension clamping devices by which a maximum of four 8 in. by 10 in. photographic films can be attached.

This rotatable cylinder is enclosed in a removable light tight box *K*, Fig. 2. A narrow slot window opening, equal to the length of the recorder drum, is in the back side of the containing box. The window opening is in direct alignment with the light projection lenses of the recording elements. A long shutter inside the box and activated by two knobs *L*, opens or closes the window opening.

Being removable, the box with its enclosed recorder drum may be removed from the machine, taken to the darkroom where it can be loaded with unexposed photographic films. When loaded, the box can be returned to the machine to be locked into position.

When the scanning and recording operation has been completed, the sealed box is again removed from the machine and taken to the darkroom where the exposed films are removed and chemically processed.

Driving Power

Scanning and recording can only be accomplished through motion of the several elements. The driving power for this is provided by a motor and gear system located at *M*.

By this power system, the scanning and recorder drums are caused to rotate at uniform speed. Driving gears rotate the lead screws which provide the simultaneous lateral movement of the color scanner and recorder projector units.

Lines Per Inch

Color scanning and recording exposure is attained at 250 lines per in. It is reported that commercial models of the Acme Color Separator machines will be geared to scan and record at 500 lines per in.

Air Cooling

Because of the buildup of entrapped heat inside the machine, ventilating units have been installed whereby the heat can be dissipated, thus preventing overheating the operating elements.

Operating Time

Actual scanning and exposing time is 32 min. for an 8 in. by 10 in. reproduction. Complete operating time from set up to finished separation negatives or positives is 1 hr. and 15 min.

Proof of Efficiency

Proof of the efficiency and accuracy of this machine is evidenced by a facsimile reproduction of an Eastman No. 2 graduated gray scale. Each step of the gray scale has been reproduced to exact density, and specific densitometer readings, corresponding to a predetermined reduction in density values of an Ektachrome to usable densities for the cameraman.

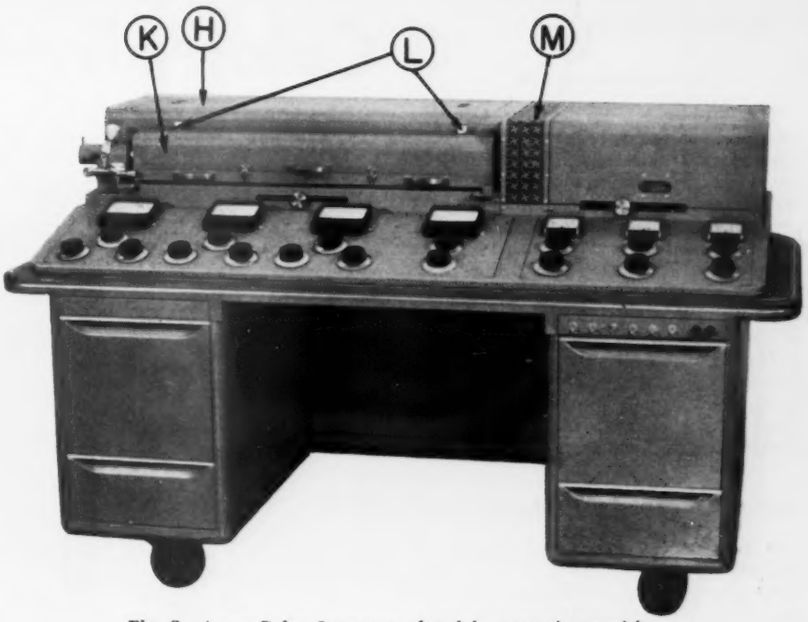


Fig. 2.—Acme Color Separator closed in operating position.

Operating Skill is Essential

Because of the skill and color knowledge required to operate the Acme Color Separator efficiently, a training school at the Acme Teletronix plant for the benefit of purchasers and operators will be established.

Separator to Camera and Platemaker

One hour and fifteen minutes after setting up the Acme Color Separator, a full set of color corrected separation negatives or positives is ready for the process cameraman. This operator will follow normal photographic procedures, standard to his company policies and regulations, with the exception that his reproductions must be accurate within the highlight and shadow range of the positive and negative image.

If correction is required in the shadow areas of the image, the correction is made by the color etcher. In photoengraving test plates, where the halftone negatives were produced by contact screen exposures, no staging of any kind was required. A simple flat etch was sufficient to produce a good printing plate.

Similar results can be obtained when halftone exposures are made through a glass mechanical cross ruled halftone screen if the flash exposure is omitted.

In the production of halftone positives for offset reproduction via the deep etch process, the cameraman must follow much the same procedures as does the photoengraving cameraman.

He must expose for the highlights, leaving the shadow areas to be corrected by the dot etcher, if additional corrections are required.

In either instance, offset or photoengraving, if a flash exposure is made in production of halftone negatives or positives, then, opaquing, staging and additional etching will be required.

The collotype or gravure printer has an advantage in that the color separated and corrected negatives are already continuous tone, requiring only that enlargements or reductions be made in densimetric balance of tone and density.

Reflection Copy

Reproduction of colored reflection copy by the Acme machine requires that an Ektachrome transparency copy of the original be made to serve as copy for the scanner. Only transparencies will serve as copy for the scanning machine.

Limitations

It is well to remember that everything appearing in the copy will be reproduced. This includes all defects and image errors or omissions. It is essential therefore, that all copy submitted for reproduction via the Acme Color Separator be as near perfect as is humanly possible to obtain.

Some Published Reproductions

Excellent color reproductions produced from Acme separated and corrected color negatives have appeared in the following publications: The Cap and Gown issue of the Allentown (Pa.) *Call-Chronicle*.

Through the co-operation of Robert Dumke, Research Director of the Milwaukee (Wis.) *Journal*, a large three color photographic illustration graced the cover of a recent issue of that paper's Screen-Radio and Television supplement.

(*Continued on Page 38*)

(*Continued from Page 37*)

Acknowledgements

The author is indebted to George Johanson, Sales Engineer, and to Rex Elmore and Leonard Kral, Research and Development Engineers, who presently are engaged in the work of perfecting and preparing the machine for manufacture and distribution, for their courtesy and assistance. It is expected to introduce the Acme Color Separator to the trade in February, 1955, when production models will be available.

Thanks also, to John Belgrave, Foreman of the Engraving Department, NEA Service, Inc., for his enthusiasm for the Acme Color Separator machine and for his kindness and courtesy.

B.F.A. Degree in Printing

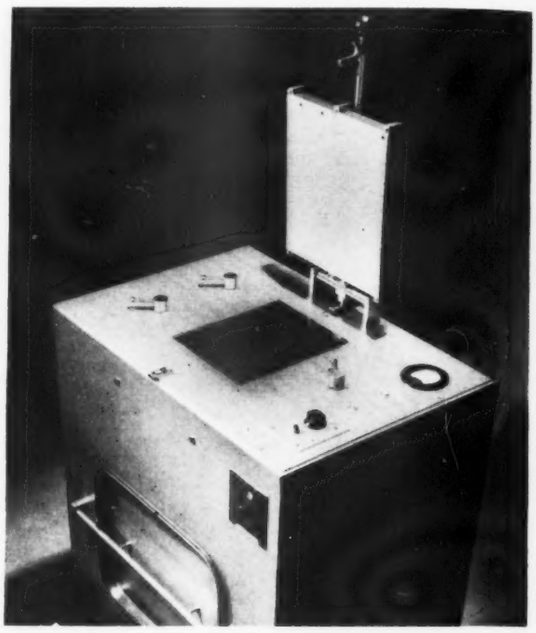
A Bachelor of Fine Arts degree in printing is now possible through an agreement reached by Rochester Institute of Technology and Columbia University. Beginning with the 1954-55 academic year, students from RIT's Dept. of Printing will be able to receive the Columbia degree of bachelor of fine arts after completion of additional requirements in liberal arts courses. The arrangement will run for three years. RIT now awards the associate in applied science degree to graduates of its two year program in printing. The school also confers the bachelor of science degree for satisfactory completion of the four year program.

Colorsplitter

Used to make continuous tone (unscreened) color separation negatives and correction masks for photoengraving and offset plate and gravure cylinder production.

STROBO RESEARCH has announced production of an improved machine with which can be separated colors from a photographic transparency through the contact printing method. In developing the Colorsplitter, Fig. 1, a color printer developed by Robert Dumke of the Milwaukee, (Wis.) *Journal,* which had been in use on that newspaper for about four years, was studied. This study led to development of a refined model, Strobo's 1954 Colorsplitter, for making continuous tone (unscreened) separation negatives and correction masks.

Fig. 1.



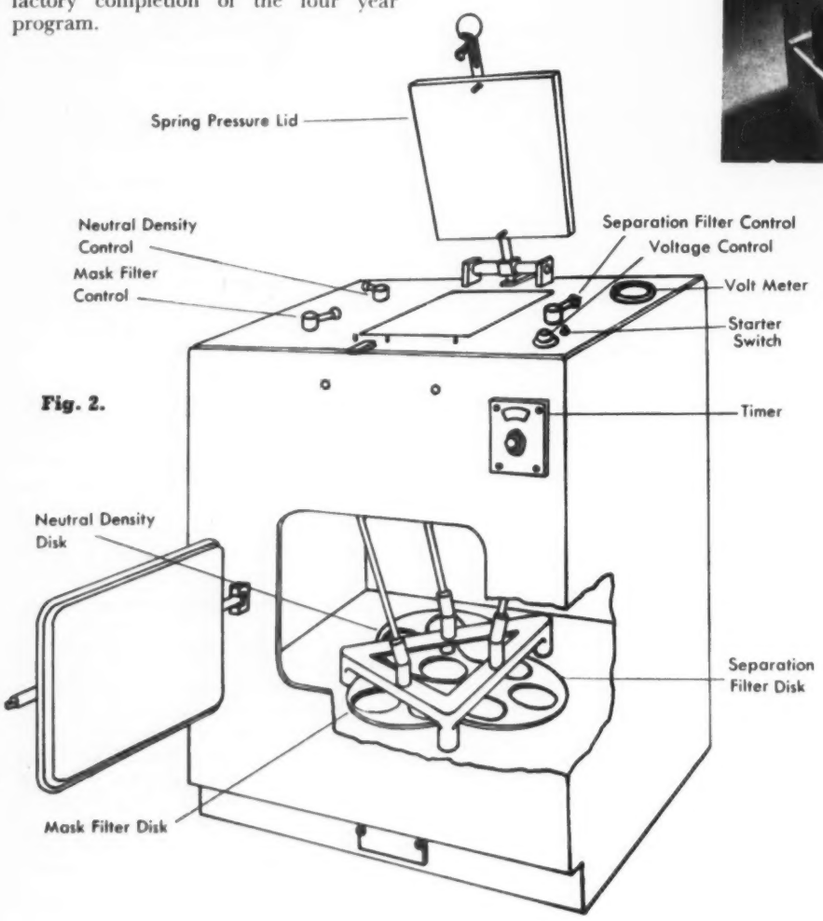


Fig. 2.

In the Colorsplitter can be made prints in the three primary colors, red, blue and yellow, up to 8 in. by 10 in. size. Difficulties of registry and duplication of effort required in making prints for color reproduction have been reduced through innovations built into the Colorsplitter.

Filters are mounted in the base of the machine on a rotary disk and can be changed for red, blue or yellow by turning the separation filter control handle on top of the machine. Filters specified for the Colorsplitter may be obtained from dealers in 4 in. gelatin squares and are held between cover glasses furnished with the separator.

Three separation negatives can be made on the Colorsplitter from the original transparency without fear of loss of registry. This is accomplished by slipping punched materials which are to be printed over built-in pegs on the printing table surface.

Masks for each separation negative can be made on the Colorsplitter, and if a highlight mask is needed to retain prominent bright points, it also can be produced quickly on the printer. Should a one-shot color camera be employed, masks

(*Continued on Page 81*)

Electrotype Casting Done by Continuous Immersion Method

Register greatly improved, positive bonding of shell to backing metal, rough shaving eliminated, production from prototype machine rated approx. 90 plates per hr.

By HOMER L. BISHOP*

**President, Bishop-Stansell Co.*
West Carrollton, O.

IN developing the Bishop Automatic Electrotype Continuous Immersion Caster a number of objectives have been realized. Among these are rapid and automatic casting of electrotype plates, an improvement in color register from plate to plate, non-cracking plates, elimination of stresses and strains during manufacture of the plates, and plates cast to pre-determined overall dimensions by mass production methods.

The electrotyping industry, as has been the case with a number of other branches of the Graphic Arts, has been operating with "tailor-made" methods to some extent. That is, the industry has been dependent largely upon skilled craftsmanship for the manufacture of its product. Due to the prompt delivery demanded by the user of electrotypes, we find in many cases that the skilled craftsman cannot spend the time necessary to completely finish a press plate. As production increases throughout the industry, it is logical to assume that this existing condition will not improve without improvements in equipment and methods. The electrotype platemaking processes have not been speeded greatly because of dependence upon methods which have not lent themselves to mass production. The net result is that the cost of electrotypes to the consumer has not been adjusted to quantity production prices.

A great deal of developmental work has been carried on throughout the industry to reduce the cost of plates to the consumer as well as to produce a more accurate product. The urge, of course, to produce constant quality and accurate plates at lowest cost is to encourage greater consumption and to reduce or eliminate drift to competitive processes.

Development work throughout the electrotyping industry is at a new high. New ways to improve quality are now being utilized in many plants throughout the country. Quality must first of all be considered when designing a new piece of equipment, yet, we must also include quantity. The old adage, quality and production go hand in hand, rules in the making of electrotypes as it does in manufacturing automobiles.

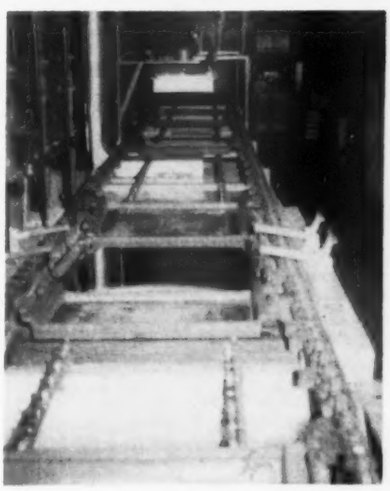


Fig. 1.—View of Bishop Continuous Electrotype Caster. This machine is 32 ft. long, 4½ ft. wide and 30 in. high. Through a continuous transmission system, the machine automatically processes electrotype shells under controlled conditions at the rate of 90 plates per hr. Among the benefits mentioned by sponsor are: Color register greatly improved, positive bonding of shell to backing metal, rough shaving eliminated; elimination of air, gases and impurities; close control of plate thickness, normalizing method permits plates to withstand centrifugal force and impression strains during printing operation on the press.

Eliminating Production Bottlenecks

In many electrotype foundries, production bottlenecks occur that seem to be a necessity. This holds true in the plating tanks because of the time consumed in this operation. From time to time the plating tanks are filled to capacity and must stay filled until the plating operation is completed. On removal of the cases from the tanks, we find the casting operation is too slow to handle the shells that have been removed. With manual operation, it is not possible to set up a smooth manufacturing cycle of operation. Under these circumstances the caster must handle a bunched-up flow of shells. It is one of the objectives of the designer of the Bishop Continuous Caster to smooth out the production line when a great number of shells are to be processed.

Color Plate Register

The problem of color register as it pertains to electrotypes has existed throughout the industry from the beginning. It isn't fair to state that all electrotypers make bad register plates, yet, it can be stated many do. The electrotyper strives to produce perfect register in his plates but many times is defeated in attaining that objective. There are a number of operations in the process of manufacturing an electrotype that can defeat register.

Successive Processing

Another objective of the continuous casting equipment is that when four-color process shells are received, the four shells can be processed in the machine successively by exactly controlled proc-

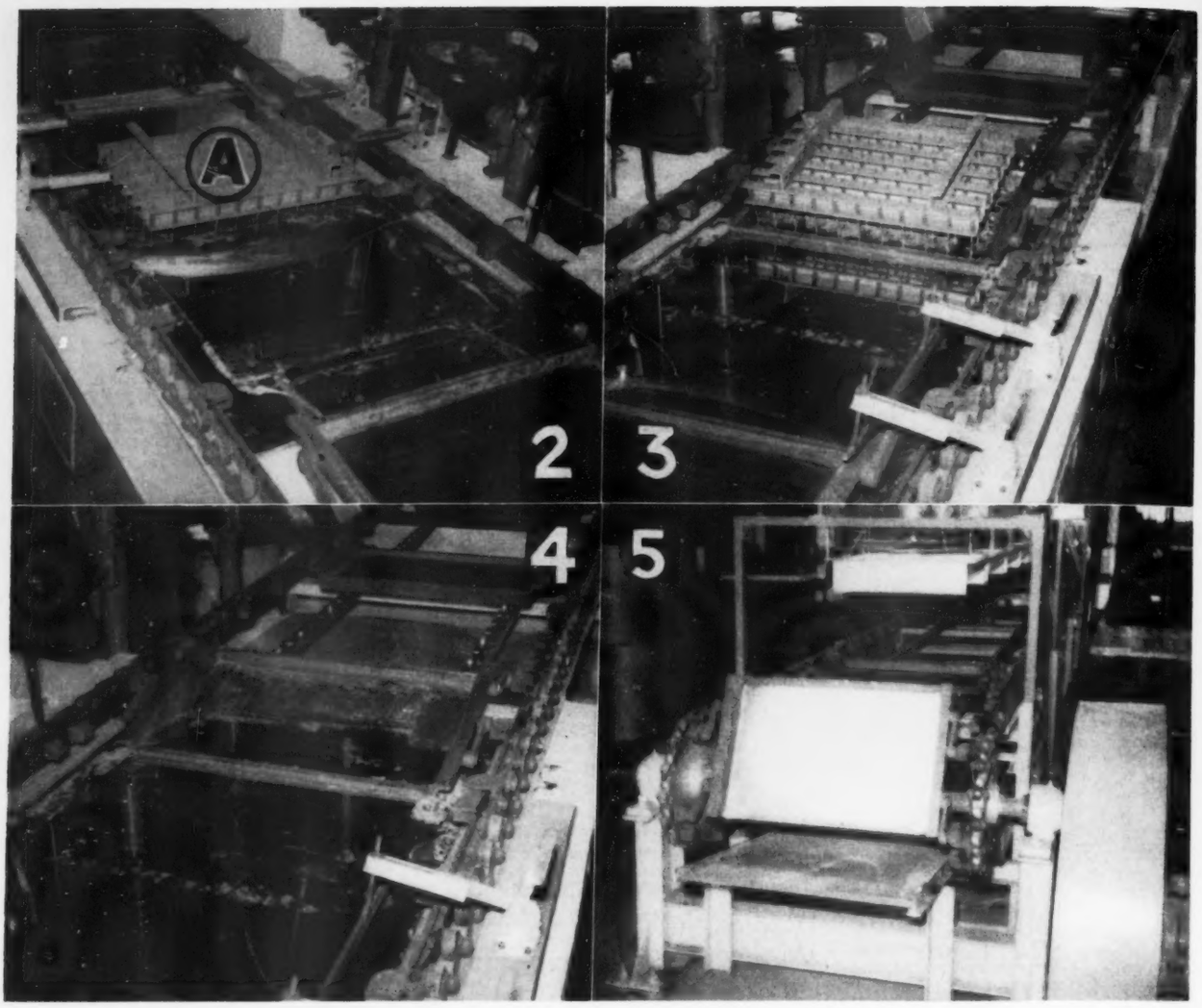


Fig. 2.—View of section of Bishop Continuous Caster, showing one of the pans submerged in the molten metal with shell holddown **A** in place on the pan. The holddown is placed over the pan before the pan is submerged and is removed after the pan emerges from the metal pot. The holddown frame is fabricated from 2 in. channel magnesium and supports 77 holddown fingers (or rods) under individual spring pressure. The holddown device exerts 27 lbs. pressure upon the shells. The contact point of each rod with the shells which are lying inverted in the bottom of the pan is a 1½ in. diam. steel ring. The holddown device causes the printing face of the shells to keep in close contact with the bottom of the pan to provide even allover printing surface in the electrotype plate. The holddown is lifted off the pan manually before the backing metal solidifies.

Fig. 3.—In this illustration, the pan has left the molten metal pot. Its travel upwardly is caused by an adjustable track upon which the pan rides. The excess molten metal has flowed from the back edge of the pan into the metal pot.

Fig. 4.—Position of the pan is the same as shown in Fig. 3, but with the holddown removed to show action that has taken place.

Fig. 5.—During the last 15 ft. of travel of the casting pans, the pan with the backed-up electrotype plate in it is subjected to the air cooling effect of fans. As the casting pans circle the delivery end of the Caster as shown in this illustration, the electrotypes drop by gravity face up on a conveyor belt (belt not shown).

esses, thus producing a set of color electrotypes with superior register qualities. In the hand-operated plant, perhaps a set of color shells will have been received. Unfortunately, one of the shells will be backed-up, but the other three shells in the set will be delayed in processing for an hour or so. Because of the differential in the shell material and that of the alloy backing metal, it is desirable to treat a whole set of color process plates continuously, or one immediately after the other, to avoid distortion, cracking and other defects which arise in irregular sequence of treatment.

It has been found, through the many tests made before building the Bishop Continuous Caster, that considerable register trouble occurs during the casting or shell-backing operation. Presently, in the industry, no set standards are adhered to in regard to the following: Temperature of casting pans, amount of metal in each cast, cooling time and condition of foil or tin plating before applying the backing metal. Without controls governing the aforementioned operations, register of the plates will be affected. Through our tests, we have determined that a set of four-color shells that register before casting, will also register after casting and Consoleveling. (Consoleveling means rolling out and solidifying the plates by the Bishop process). Tests were made with light and heavy shells constituting a four-color delicate register job and the results were highly satisfactory. Proper solidification of the backing metal proved to be a must in these tests. Plates that were cast and not subjected to the Consoleveler treatment could not be controlled completely.

Plate Cracking

Another prime objective of the Bishop Continuous Caster is to process the plates throughout the entire backing, solidifying and curving operation by what might be called "normalizing methods." Inasmuch as the plates all are treated alike under strict production control conditions in a manner calculated to relieve stresses and strains between two dissimilar metals, the brittleness to be found in some electrotypes is eliminated. In particular, the Continuous Cast Plates are processed to withstand centrifugal force and impression strains generated during the printing operation.

By pre-heating the pan (mold) and the shell to within the approximate temperature of the molten backing metal stresses and strains between shells and backing metal are automatically eliminated.

The method of heating the pan (mold) to the same temperature as the temperature of the molten backing metal before the mold is submerged in the molten metal may be referred to as normalizing the temperatures. Thus the mold is pre-heated to molten backing metal temperature and when the shell is placed in the mold before the mold is submerged, the copper shell will absorb heat from the mold rapidly.

If permitted, oxidation of the tin used for bonding molten metal to the shell may result in a defective plate that will fail when used. This is explained as follows: The oxidation temperature of tin is lower than the temperature of the backing metal. By submerging the mold in the molten backing metal it can be seen that the shell will be heated quickly to the temperature of the molten metal, but because the shell is submerged in the molten backing metal before the tin has been heated to the oxidation temperature, the tin cannot oxidize.

In addition, ridding the cast of all gases by controlled immersion, plus positive solidification, results in the backing metal structure being compact and of even density. The hazard of cracked plates on the printing press due to uncontrolled casting methods is eliminated.

Preparing the Shells

The shells are pre-tinned by any method in vogue and the face of the shell is coated for protection against adhesion of metal. It is also recommended that a soldering flux be used. After applying the flux, it is also recommended that the shell be placed on edge, permitting the excess flux to drain off. It has been found that permitting the remaining flux to completely dry on the back of the shell will aid operations.

Bishop Immersion Caster

Before discussing the shells further, the Bishop Continuous Immersion Caster will be described.

The outside frame dimensions of the Continuous Caster are: 32 ft. long, 4½ ft. wide by 30 in. high.

Now, mounted inside the frame of the Caster on a pair of Link continuous sprocket chains (one on either side) and spread 3 in. apart, are 34 casting pans, each having a casting area 14½ in. by 23 in. This dimension can be increased to suit the needs of the user. The pan dimension now being utilized was selected because of its conformity to magazine electrotypes.

The construction of the casting pan is quite a bit different than the pans normally used for commercial casting. The pans used in the Bishop Automatic Caster are 1 in. deep at the forward end and 1½ in. deep at the back. The pans are constructed in this manner to effect an even cooling of the backing metal. Tests have proved that the cast itself tends to stay flat throughout the entire cooling period. By this change in construction we have normalized the cooling of the cast.

The casting pans are connected to the Link conveyor chain by steel hangers that are approx. 8 in. in length. The length of the connection permits the track for the Link Conveyor chain to be elevated 6 in. above the molten immersion metal. By so doing, we are assured that the conveyor track and chain cannot be affected by the heat. The hangers connecting the pans and track are very loose to allow a great degree of flexibility.

The bottom of each casting pan is machine grooved to close tolerance to fit a level track that runs directly through the center of the caster and the full length of the machine. This parallel track is fitted with 1½ in. ball bearing rollers mounted at 3 in. intervals on which the casting pans ride. By utilizing ball bearings all drag on the casting pans is eliminated. The caster is powered by a 3 h.p. motor. This motor is geared down so that the casting pans travel at a rate of ½ in. per sec. To mention a simile to assist the reader to understand the motion involved, it might be said that the pan assembly works like an army tank track.

The shell pans travel face up from the operating end and throughout the length of the machine on the upper level. As the pans approach the operating end, of course, the pans are inverted. As the pans approach the operating end they pass through an oven which preheats them.

Pre-heating Casting Pans

The oven for pre-heating the pans is 12 ft. long and is completely insulated. It is equipped with 84 Selas gas heaters, each 3 in. diam. mounted above the pans. Since the pans travel inverted, the heat contacts the bottom of the pans as they pass through the oven. This oven is under thermostat control and a precise heat for all casting pans that pass through it is assured. This is of vital importance as it eliminates all guess work in pre-heating. The entire pre-heating assembly was built by Selas Corporation. This oven is located at the working end of the caster, directly under the main casting pot. All casting pans travel the full length of the oven at a speed of ½ in. per sec. The pans are heated to 575 deg. and lose 15 deg. by the time they enter the casting pot. The casting metal is held to 560 deg. and is the same temperature as the casting pan on immersion.

Casting Pot

The casting pot is 6 ft. in length by 30 in. wide. It is 6 in. deep and holds 1500 lbs. of casting metal. The metal is heated electrically utilizing Chromolox Heaters. This metal temperature is under Fenwal Thermostat control. It is a simple matter to regulate the heat control of both the oven and casting pot by this method. A pre-heated supply of molten backing metal is contained in a supply tank mounted above the major immersion pot and contains 2500 lbs. This is supplied to the major casting pot by gravity feed. This supply tank is utilized for melting down all metal for the casting operation. It is also under thermostat control.

To this point, the writer wishes to make it clear that we have established rigid controls for the heating of the casting pens and also to the casting metal. It must also be mentioned that the two are now uniform.

Shell Hold-down

An interesting development in engineering the equipment is that of the device for holding the face of the shells down upon the bottom surface of the pan. Because backing metal consists of lead, tin and antimony, it can be seen that the shell possesses a much lower specific gravity. This causes the copper shell to tend to float or raise upwardly when the mold itself is submerged in the molten backing metal. To prevent the raising of the shells during immersion, a shell hold-down device was developed.

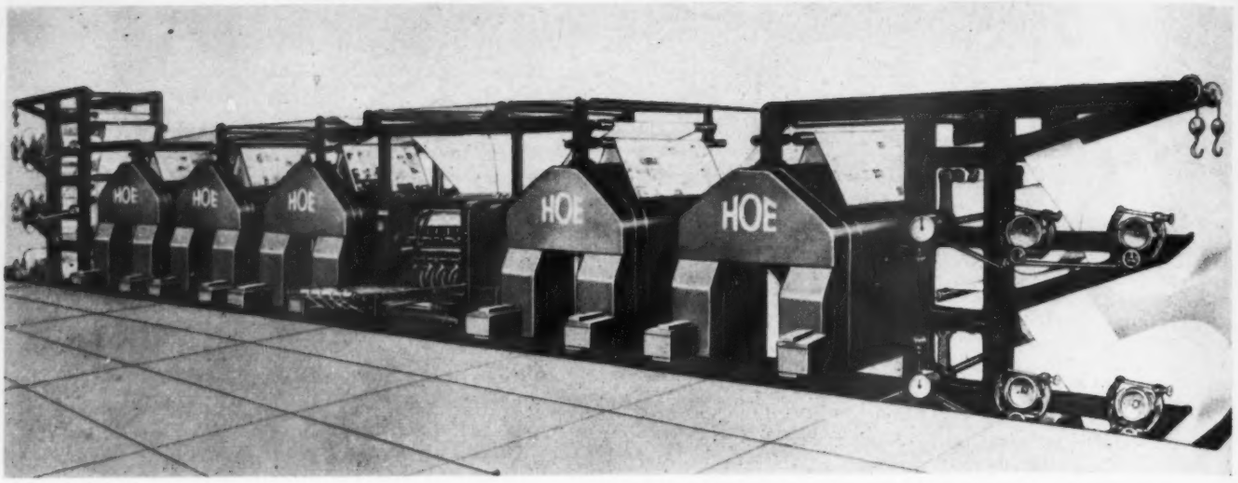
The method of holding a shell in position during the casting operation is of prime importance and considerable effort was involved in perfecting a means of accomplishing it. Due to the unevenness of the shells to be cast, plus the expansion of the shell on heat contact, it was soon found that a flexible mechanism was necessary. When utilizing a rigid finger hold-down it was found that all fingers could not make contact with the shell. This of course was due to the unevenness of the shells in subject matter. The hold-down that was finally acceptable is flexible and permits contact of all fingers to the back of the shells. The hold-down is fabricated from 2 in. channel magnesium. The overall dimension of the structure is the same as the casting area of the casting pans. The frame is composed of 77 hold-down fingers each controlled by tension springs mounted in the channel. The hold-down exerts 27 lbs. pressure against the shells. The shell contact point is a steel ring 1¼ in. diam. The overall weight of the hold-

(*Continued on Page 82*)

Delegation of Authority

(Abstracted from an address given by John S. Williams, President, Williams & Marcus Co., Philadelphia, before the 35th Annual Convention of the Intl. Assoc. of Printing House Craftsmen, Philadelphia, August 1954)

HOW can leadership be sure that its purposes and aims are interpreted correctly by the various people who control the output of your product? First, it is most important that authority is delegated and responsibility given. Once that authority is given, never encroach on it. If you have confidence enough in a man to give him authority and responsibility, have the courage to let him do his own job. Tell him that this is his problem, that he will have to work it out himself and that the one thing you are interested in is results. Give the man a sense of pride and a feeling of pride in his own ability to meet and conquer the problems that come before him, and you'll be surprised how many of your associates grow in stature and ability under such treatment. The second and even more important problem which faces you is that your own example of integrity, industry and ability to deal fairly are before your associates at all times.



Hoe Printmaster Single Width Press for Printing Small Daily and Weekly Newspapers

INNOVATIONS in press design in the small daily and weekly newspaper field were discussed by E. W. Worthington, Chief Engineer of R. Hoe & Co., Inc. He told a meeting of the Pacific Newspaper Mechanical Conference on Sept. 16 that the company's new Printmaster press permits speed, quality and increased use of ROP color in the single width press. Although designed for newspapers with circulations from 7500 to a possible 100,000, Worthington said, many features in the new equipment will find their way into future big presses.

Innovations include a friction-drum ink distribution system; vertical ink rail with individual column pumps; more inking cuts with fewer rollers; reversing feed for color without switching rollers from one side to another; spot and full color for different newspaper sections; force-feed inking; automatic lubrication to the drive and cylinder gears; and changing from regular to mail fold without stopping the press.

The first Printmaster press unit was tested at the Easton, Pa., laboratory of the American Newspaper Publishers Assoc., where it still can be seen in operation, according to Worthington. He said that during operation of the new press there is a smooth humming sound.

The speaker then told how Hoe engineers installed a third frictionally driven drum between the two drums already on the press to produce the ink distribution needed for uniform impressions with full-page quarter-tone plates.

Worthington described how the vertical ink rail applies ink by force-feed pump to the lower drum. He said, this system produces less mist with ink economy and results in a cleaner press. It permits reversing of the unit for color by adding another roller on the bottom. Seven inking cuts result in better ink distribution.

Extra color cylinders can be added on both sides and either couple made reversible by meshing an intermediate gear and uncoupling a clutch connection. Cleaning the ink pump for color is speeded because the mechanism is attached to the top of its removable cover. The pump feeds ink in proportion to press speed, controlling color from threading to a maximum of 40,000 copies an hour. Pump pressure prevents dirt and paper dust from getting into the ink system. The ink rail is on a pivot and can be lowered for cleaning, adjustment and inspection. The arrangement permits shutting off a page without use of fractional rolls.

Mounting gears on the cylinder hubs without keyways, reported Worthington, is a development that eliminates gear distortion, noise and wear. This is done by hydraulically floating the gears onto the tapered hubs, thus producing a force fit between the two. Cylinders are steel forgings.

Automatic paper tension is provided by a wound spring and hydraulic shock absorber on the governor roller which maintains a predetermined tension by spindle brakes.

The folder is built to receive an attachment for making a mail as well as a newspaper fold. Shifting a lever switches from one fold to the other without stopping the press. Previous equipment required half-hour shutdowns to do this. Accurate and fast folding is said to be aided by a motion incorporating an internal gear and pinion arrangement.

The press bedplate is cast integral with its main framework to provide a more rigid press structure.

Units already are scheduled for delivery in the spring of 1955.

Operator Fatigue Reduced — Work Speeded — In this sectional view of the bed of a paper cutter are shown some of the spaced outlets called Air Cushion Device, announced by D. W. Schulkind, President of E. P. Lawson Co. A series of air valves embedded in the cutting machine table is used to eliminate physical effort required to move large size paper lifts by reducing the friction between paper and cutter bed. The effort required to move the heaviest lifts, it is said, is reduced by approx. 85%. The device consists of a series of ⅝ in. diam. holes, each fitted with an air valve embedded in the working area of the table. The holes and valves are fitted with special nylon balls which, when depressed, permit compressed air to escape. When a heavy lift of paper is placed on the cutter table, the nylon balls are depressed and the lift is supported by a live cushion of air. Compressed air tubes connect to valves in the air line under the table. For further information, please mention PEE No. 322 in your request.

Foam Rubber Pads Prevent Damage to Paper Rolls

Gordon Holcombe Co., Inc., has designed a foam rubber pad which may be used in the handling of paper rolls to prevent dents, gouges and roll distortions. To be known as Crashpads, they are made of foam rubber and covered with vinyl coated nylon called Fiberthin. The pad is higher at one end than at the other. Leather reinforced air vents on the sides expel air on impact. The pads are equipped with handles on both ends and sides for fast, convenient positioning.

Crashpads are available in various sizes. The 24 in. by 36 in. pad is 4 in. thick at one end and 9 in. thick at the other, and is constructed to withstand the impact of rolls weighing up to 900 lbs. The 30 in. by 50 in. pad is 6 in. thick at one end and 12 in. thick at the other, and is constructed to withstand the impact of rolls weighing up to 2000 lbs. Other sizes are also available. For more details, please mention PEE No. 320 in your request.

Side Delivery and Other Improvements for C&P Craftsman Automatic Press — The Chandler & Price Co. has improved its Craftsman presses. Among the improved features are: Increased speed for the 10 in. by 15 in. press which is rated at 4500 i.p.h., and the 12 in. by 18 in. press which is now rated at 4000 i.p.h. These increased speeds have been made possible by application of a side delivery mechanism mounted at the right side of the press.

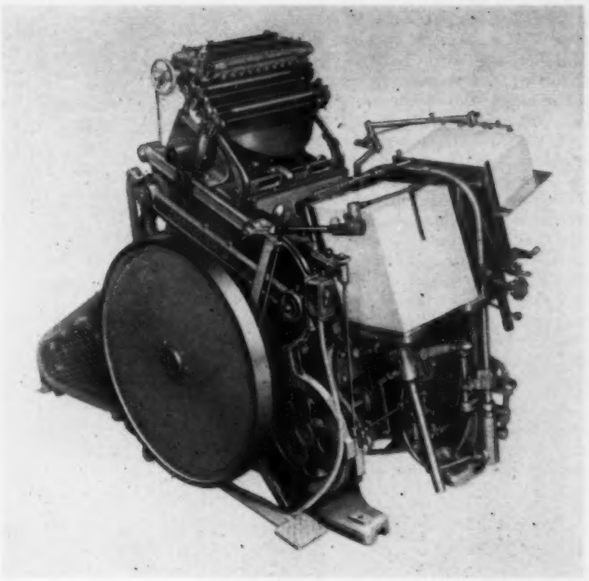
The delivery table is of the same capacity as the feed table and each will hold 14 in. of stock. The sheets lie flat on both tables. Sheets are delivered printed side up and are in full view of the operator from the time the sheet leaves the impression until it is deposited upon the delivery table. The operator can check color, numbering machines and general appearance without interfering with continuous press operation. Also, printed sheets may be removed from the delivery table in small lifts by grasping them at the sides without interfering with the movement of the following sheets.

Sponsor states makeready time is reduced for 25% to 40% through a dual impression means for keeping the form and platen parallel. For this purpose two handwheels are used. The upper handwheel regulates the impression. The lower handwheel alongside the flywheel is used to keep platen and bed parallel for light or heavy impression. Thus the form can be leveled with the platen before spot sheets are put in place. Scales and indicators are provided for both handwheels to indicate how much impression has been added or removed. Center scale indicates typehigh position to facilitate returning both handwheels to original factory settings.

A double rotary pump provides intermittent or continuous air blast and constant feed suction. The air blast for separating sheets for feeding is adjustable to accommodate any width of sheet or weight of stock. Air from these outlets lifts the top sheet slightly away from the pile so that the sucker tips lift one sheet at a time. The air blast may be set for intermittent or continuous blast. Feeding the sheet and removing it after impression is accomplished by air drawn through sucker tips on the feed and delivery arms.

Another feature of the presses is an improved elevating mechanism for the feed table.

Both models of presses will handle larger sheet sizes. The max. sheet for the 10 in. by 15 in. press is 11 in. by 17 in.



On the 12 in. by 18 in. press, the largest sheet size is 13 in. by 19 in. Both presses will handle sheets as small as a No. 88 card.

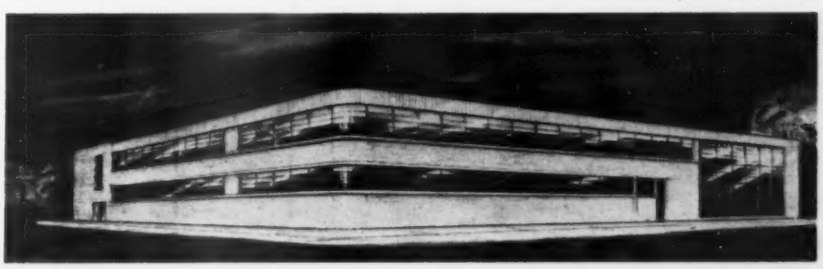
Both feed and delivery slides have been redesigned and contribute to easy motion of the stock. Feed slides are adjustable to gauge pin settings.

Any stock from onionskin to 12 ply board may be handled in the press. The capacity of the feed table permits loading a full box of envelopes. By means of a special attachment, small sheets, cards, envelopes, two-up, can be fed readily to hairline register. For more details, please mention PEE No. 323 in your request.

Miehle Press Installation in Kansas City— A Miehle No. 76 Two-Color Offset Press has been installed at the Rigby Printing Co., Kansas City. Shown above is a unit of the press being hoisted by crane to the fourth floor of the Rigby plant. Many companies are resorting to this method of bringing heavy machinery into a building where production departments are located on upper floors and elevator capacity is too small for its accommodation.

ANPA Projects Committee

ANPA President, Franklin D. Schurz, South Bend (Ind.) *Tribune*, has announced members of the Projects Committee of American Newspaper Publishers Assoc. Research Institute, Inc., are as follows: Chairman, J. D. Funk, Santa Monica (Calif.) *Outlook*: Ralph R. Cranmer, Williamsport (Pa.) *Grit*; George L. Green, Providence (R. I.) *Journal* and *Bulletin*; George Hearst, Hearst Newspapers, New York, N. Y.; Joseph E. McMullen, Milwaukee (Wis.) *Journal*; Peter Miller, LaSalle (Ill.) *News-Tribune*, and C. W. Welch, Washington (D. C.) *Star*.



$1 Million Plant for K of C — The Knights of Columbus will construct a modern printing plant (artist's drawing of which is shown above) in New Haven, Conn., according to an announcement by Luke E. Hart, Supreme Knight of the national organization. It is reported the plant will cost $450 thousand and will house equipment valued at $750 thousand. The K of C presently produces in its own printing plant, ten million copies of its monthly magazine *Columbia*, 500,000 copies of the weekly *News* annually and 100,000 copies of the *Columbian Squires Herald*. In addition, the plant produces application forms, pamphlets, posters, stationery, etc., for the organization. Installation of new Cottrell presses in the plant will enable the organization to include color on the inside pages of the *Columbia* and a combination of five colors on the outside covers. The plant is to be under the direction of William H. Porter, General Mgr. Plans call for having the January 1955 issue of *Columbia* printed at the new location. Part of the new equipment installed includes a Wood Electrotab Autopaster, one Wood Pneumatically-Controlled Running 5-Belt Tensions and one 3-Arm Standard Reel.

Fig. 2.—*View of operating section of Sta-Hi Stereotype Color Mat Master Matcher. By using this instrument, each mat in a set of color stereotype mats can be registered, image to image, so that when the registered mats are placed in the Sta-Hi Master Trimmer, all mats in the set will be trimmed alike and can be placed in the stereotype plate casting box also in register. This equipment is designed primarily to register mats quickly for r.o.p. editorial and advertising color printing.*

In this illustration, the operator has first registered and placed the key (black) mat of a set of four color mats in horizontal position on the upper platen. This key mat stays in unmoved registered position until the red, blue and yellow mats have been registered to it. Through the Viewing Mirror, the operator sees the image of the key mat on the upper platen. He also sees the image of the color mat resting on the lower platen. The mats are held in place independently by vacuum. The vacuum can be released to permit movement of the color mat until the pattern coincides with the black or key mat in fixed position on the upper platen. When the two mat images coincide, the operator places four register marks on each color mat. The set of mats is then taken to the Sta-Hi Master Trimmer where they are trimmed on three sides in register so they will fit the plate casting box.

Sta-Hi Stereotype Mat Color Register System

By LELAND H. SATRE*

**Chief Engineer, Sta-Hi Corporation, Whittier, Calif.*

THE Sta-Hi Stereotype Color Mat Register System actually consists of two separate pieces of equipment. These are the Master Matcher (recently improved) and the Master Trimmer. The Master Matcher is used for positioning each flat molded mat in a set of color mats and supplying it with register marks so that when placed in the Master Trimmer, each mat (curved to fit the contour of the plate casting box) can be trimmed in exact relationship on three sides. Then when the mats are placed in the curved plate casting box, each color plate will bear proper relationship of the printing image to the outside edges of the curved plate.

The operation as described in this article pertains to mats prepared for casting in any type of Autoplate equipment. When hand casting boxes are used for color, alternative methods are provided for the accurate positioning of the mats in the casting box.

Inking Mats for Color Contrast

Before commencing description of the operations taking place in registering a set of mats, it might be well to mention that if the stereotyper prefers, he can roll up each form with a special wax base ink, applied with a hand breyer, of the same color which the plate is intended to print on the press. Thus, a red plate would be proved with red ink, the blue plate with blue ink, etc. When the mat is molded, the ink is transferred to the printing image in the mat. The idea in inking the mats is to secure better contrast when registering the color mats with the key mat in the Master Matcher.

For the purpose of this description, the operations employed in registering a set of black and three color mats will be described. In a set of three color mats, each is placed in register in the same way, except that there is one less to be registered, and usually, the blue mat is used as the key mat to which the red and yellow are registered.

Explanation of Principles Involved

In the Master Matcher is incorporated an ingenious system of mirrors and controlled illumination to make it possible to check and compare the actual printing images of the several different mats in a color set.

Referring to Fig. 1 which is a schematic diagram of the elements in the machine, we have *Platen 1*, *Platen 2*, *Viewing Window*, *First Surface Mirror*, and *Apparent Image Position 3*.

When the operator looks into the *Viewing Window* he sees an image of *Platen 1* or an image of *Platen 2* which appears to be in *Apparent Position 3*. Whether he sees *Platen 1* or *Platen 2* is dependent on the relative illumination of the platens. If *Platen 1* is the more brightly illuminated, it is the one seen at *Apparent Image Position 3*. Conversely, if *Platen 2* is more brightly illuminated, it is seen as *Apparent Image Position 3*. If the illumination is approximately equal, both platens can be seen superimposed at *Apparent Image Position 3*. Both platens are scribed with fine lines in identical patterns. When these two patterns are superimposed they appear as

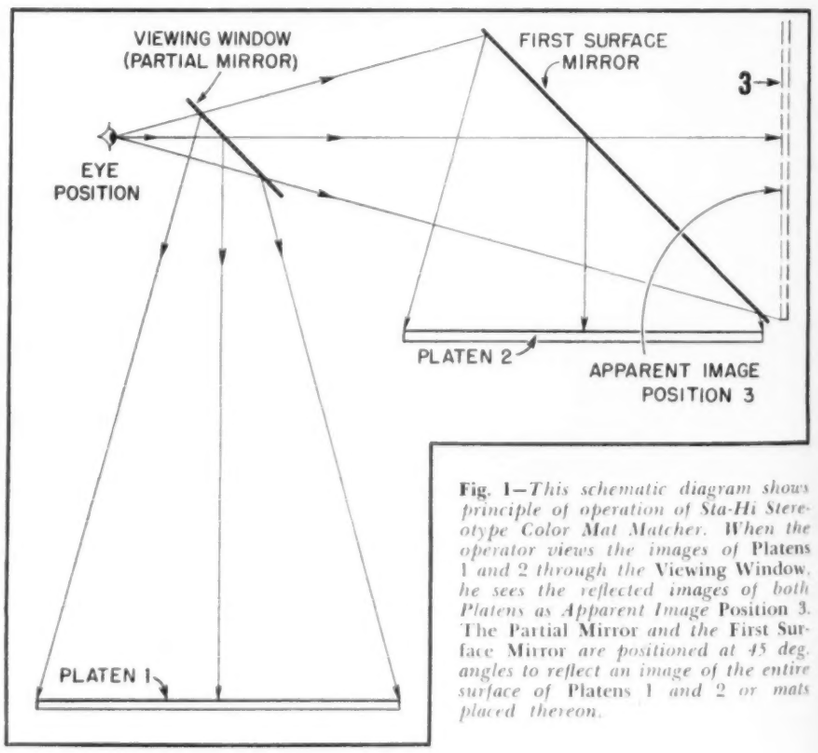


Fig. 1—*This schematic diagram shows principle of operation of Sta-Hi Stereotype Color Mat Matcher. When the operator views the images of* Platens 1 *and* 2 *through the* Viewing Window, *he sees the reflected images of both Platens as Apparent Image* Position 3. The Partial Mirror *and the* First Surface Mirror *are positioned at 45 deg. angles to reflect an image of the entire surface of* Platens 1 *and* 2 *or mats placed thereon.*

only one. The *Viewing Window* acts as a mirror when *Platen 1* is more brightly illuminated. When *Platen 2* is more brightly illuminated, the *Viewing Window* appears to be transparent. Under approximately equal illumination, it acts as both a mirror and a window and the operator sees both platens superimposed.

Registering Key Mat

Now, in registering a set of four color mats, the key (black) mat is first placed on *Platen 1*, Fig. 1. The mat is centered up to the scribed line engraved on *Platen 2* which appear superimposed on the mat in *Apparent Image Position 3.*

While positioning the key mat on *Platen 1*, the operator may turn the vacuum on and off to hold the mat in place while viewing. After the operator has adjusted the position of the key mat on *Platen 1* and with the vacuum holding the mat securely in place, the right edge of the mat is trimmed by a lever knife at the right hand side of the platen, but not shown in the halftone illustration. This trimmed edge is a guide for oversize trimming of the mat before it goes into the Master Trimmer. Two small positioning holes are now punched at the edge of this key mat. These are punched by lowering one of the levers shown above the mat in the halftone illustration, and depressing two pin punches. Register marks are placed on the mat near each of the four corners by register mark punches, two of which are carried in the lever mentioned above, and the other two of which are carried on a separate lever on the other side of the machine.

Registering Color Mats

The key mat is now transferred from *Platen 1* to *Platen 2.* The position of the mat is determined by placing the two holes punched in the mat over two corresponding pins in *Platen 2.* Vacuum is now applied to hold the mat securely in position. The key mat remains on *Platen 2* for the remainder of the register operations.

The operator proceeds to register the other mats in the color set, each of which is placed separately on *Platen 1*, Fig. 1. For instance, the blue mat is placed on *Platen 1* and its image appears superimposed on the image of the black mat at *Apparent Image Position 3.* The blue mat is moved until its image is in register, and the operator then applies vacuum to hold it in this registered position. The levers are then brought into position and the register marks are placed on the mat in the same relative position as they appear on the key mat. The corresponding edge of the blue mat is then trimmed the same as the key mat.

All four mats in the set are now trimmed oversize and are placed in the Master Former. In this machine the mat is formed with heat and vacuum to a semi-cylindrical shape corresponding to the curvature of the curved plate casting box.

The set of mats is now taken to the Master Trimmer for accurate trimming. In the Master Trimmer the register marks on the mat are closely aligned to pre-set cross lines projected from each of the projectors on the frame of the machine. The mat is then held securely by vacuum while it is simultaneously trimmed on the head, foot and ring gauge edges so that each mat will fit snugly into the plate casting box and all plates will be cast in close register.

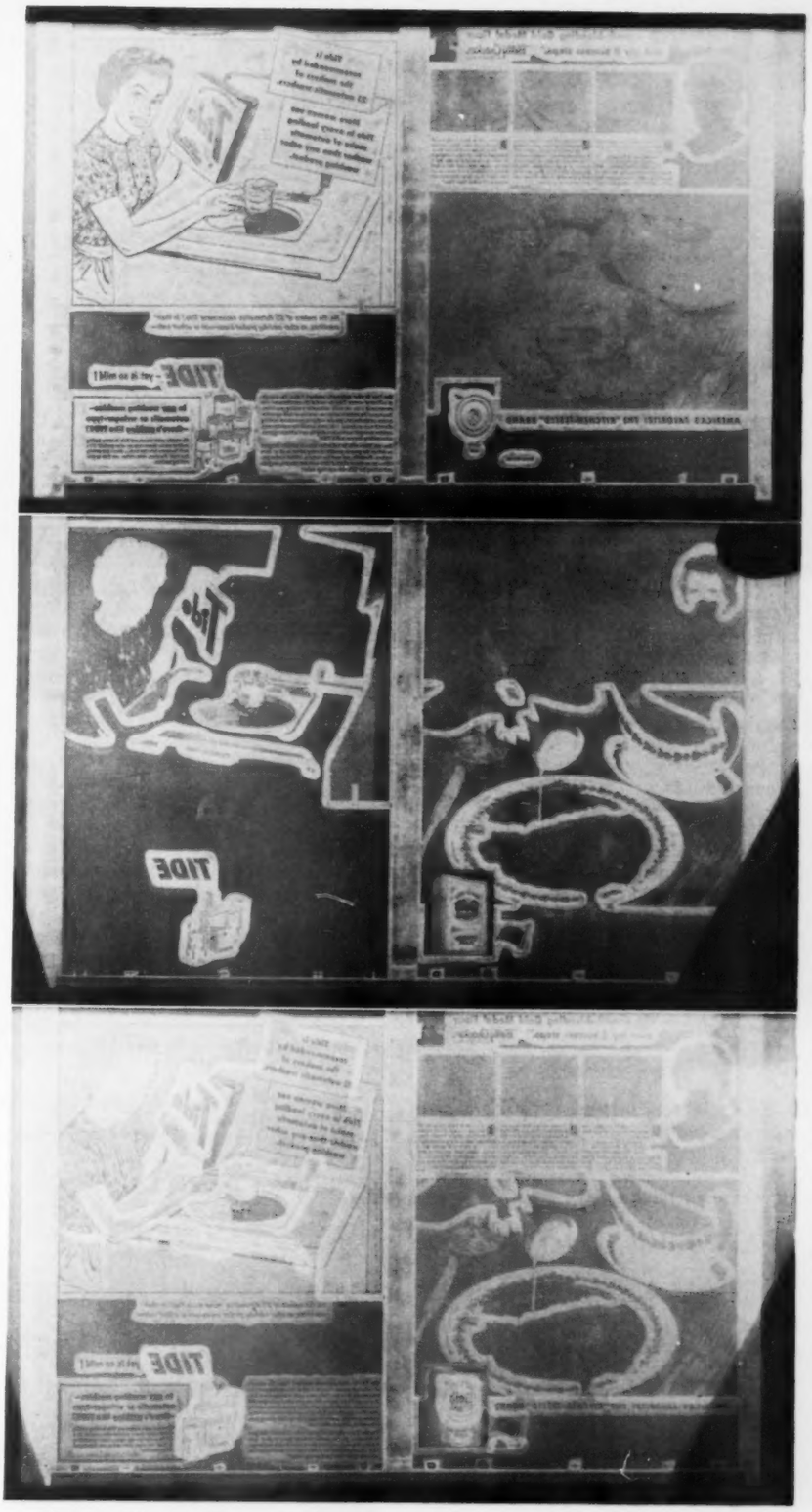


Fig. 3.—*The top illustration is a picture taken through the viewing window just as the operator sees the key or black mat on* Platen 2, *Fig. 1, when this platen alone is illuminated. In the middle illustration is shown the image of a color mat on* Platen 1 *in Fig. 1 when it alone is illuminated. In lower illustration are shown the superimposed images of key or black mat and a color mat when both* Platens 1 *and* 2 *have appproximately equal illumination.*

Techniques *in offset-lith platemaking and printing methods discussed at convention of National Assoc. of Photo-Lithographers*

By ADAM HENRI REISER

AN attendance of 540 was noted at the technical clinic held on Saturday Sept. 25 during the National Assoc. of Photo-Lithographers, Hotel Statler, New York. Eight experts composed the panel answering questions.

Headed by W. J. Stevens, the panel consisted of J. W. Mazzaferri; A. T. Kuehn; T. Makarius; J. T. Groet; R. P. Tyler; J. L. Kronenberg; M. H. Bruno. The session was sponsored by the New York Litho Club and the National Assoc. Photo-Lithographers.

Moderator William J. Stevens received a plaque from NAPL's Walter Soderstrom for his work in the advancement of photo-litho.

Through all the talk ran the thread of standardization, use of the sensitivity guide and standardized platemaking procedure were by-words. Notes on the discussion follow:

Auto Screen Film

The screen incorporated in the emulsion produces halftone negatives with slightly larger shadow dots and the highlight dot veiled over. This is inherent in the film, but with the use of the sensitivity guide and standardized platemaking procedure uniform results can be obtained from the negatives.

Work Differences

The difference in the work of the operators on two different cameras may be the difference between violent agitation in the developing operation. Still development yields a flat result.

Dots With White Centers

Deep etch plates with dots bearing white centers could have been caused by one of two missteps; (1) Use of too strong an acid for deep etching or for too long a time, sinking the image too deeply and the blanket unable to det down into the cut to pick it up with the rollers unable to det down into the cups to deposit ink; or (2) Improper use of alcohol or alcohol with a high water content; bleeding of the dot may take place; if the alcohol is dried rapidly by the action of an electric fan, (especially in a high humidity situation) condensation may set in. Addition of Cellusolve to the alcohol may remedy this condition.

Three-Color Printing

Three color printing without a black printer calls for a proper choice of inks. It was pointed out that the process blue developed by Eastman Kodak and some of the ink companies was much more expensive than other inks. The reason is that at the present the labor put into it causes it to be a tailor made product. When these inks are made on a production basis their cost will be reduced. It was pointed out that three color printing producing a black on the sheet without the use of a black printer was no novelty, the litho label houses having been doing that for some time. Proper balance of color was a prime essential, varying the sequence of the colors printed down, thus making a difference in the final result. Of course, the attempt to color correct without hand work, using mechanical means, seems to have failed so far. Because of the interpretation of the processes put into hand correction by the skilled litho artist, it is felt mechanical correction needs to be developed further.

Which Wets Best?

The question of which material seemed to wet better by ink (either caseine or albumin) was answered by the fact that the trend seems to be towards covering the base (either caseine or albumin) with lacquer, which becomes the printing surface.

Vinyl lacquer works best when not rubbed as thinly as others to insure a better binding with the ink. It must, however, be spread out as evenly as possible.

Storing Plates

Two methods were advocated for the storing of plates. The conventional manner of hanging plates on pipe racks, with a last sheet of the job off the press containing the history of the job attached to the plate, it was felt, eliminated much of the scratching and scraping occasioned in sliding plates from piles. Where plates are piled, dividers must be inserted to facilitate handling in getting plates out for a new run. This piling method was advocated to keep air from between the plates and thus minimize oxidation. The gum coating on plates tends to take on moisture and therefore the areas for storing plates should be comparatively dry with a low relative humidity.

Black Plate Failure

Many opinions were expressed regarding the cause of constant failure of the black plate in a three color set of yellow, blue and black plates. The yellow and blue went through without incident. Three factors in plate failure on the press may be (1) Ink; (2) Pressure and (3) Size of the job. Of course, if the image has to be run spare and starved, without the ink to protect it, eventual plate failure ensues. There is a jingle in the industry:

> If a plate runs for a thousand or more,
> Your platemaker will never get sore;
> For the plate that takes it without loss
> To a thousand sheets, the pressman is boss.

Overpressure shows up after 5000 sheets in a smaller dot after it has been running full to then. Often when a dry spray is used, the powder left on the

Shown here is the panel of lithographic experts which took part in discussions at the NAPL Convention. They are identified from left to right along with the subject on which they spoke. Front row: Ink, Theodore Makarius, Pope and Gray, Inc.; Press, Albert T. Kuehn, Miehle Printing Press & Mfg. Co.; Paper, John L. Kronenberg, S. D. Warren Co.; and Film-Camera, J. T. Groet, Eastman Kodak Co. Rear row: Panel Chairman, William J. Stevens, Miehle Printing Press & Mfg. Co.; Press, Roy P. Tyler, Harris-Seybold Co.; Technical, Michael H. Bruno, Lithographic Technical Foundation; and Platemaking, Joseph W. Mazzaferri, Partner, Colorcraft Lithoplate Co., Philadelphia.

sheet, if in heavy deposit, will collect on the blanket and then transfer to the plate, wearing the image. Close and continuous examination of the plate during the run will disclose when changes take place in the image. Many gummings of the plate without adequate ink protection will surely weaken the image.

Curling Sheets

Coated sheets ran on an offset press tended to curl on delivery, defying efforts to keep them flat. One remedy suggested called for about 1 in. blank space on the rear edge of the sheet. When too much impression between the impression cylinder and the blanket occurred, the curl was exaggerated. Wetting action of the ink as well as tack could cause the curl, too. Many times emergency correction attempts on the ink are undertaken whereas static or gripper setting checking is indicated. A commercial product called Detackifier was suggested as a compound to add to the ink in a similar manner to the addition of petroleum jelly, sometimes used in coated runs. On occasion a change of stock has cleared up the situation, proving that neither ink nor other factors were at fault.

Quick-Dry on Kromekote

Quick drying inks that are run on Kromekote or high gloss stocks may dry sandy to the touch. A dust spray, or the addition of corn starch or some other ingredient used by the pressman to doctor the ink may introduce a substance which will not be wet by the vehicle in the ink. Use of a transparent ink which will let the reflective quality of the surface of the paper through is advocated. In fact, the use of a screen instead of a complete solid lets the shine of the paper come through. It was pointed out that the inks may be constructed for use with yellow etch and made up differently for the white etch.

Ink Drying on Paper Board

Many factors are involved in drying ink on paper board as follows:

1. Relative humidity of pressrooms, best about 55% year round.
2. Wide variety of moisture content of the stock.
3. pH of stock coating on paper.
4. If the coverage is heavy, there must be a winding of the sheets.
6. Working closely with the ink maker is necessary.
7. Souping inks up to get printing production can cause trouble.

Temp. and r.h. in Platemaking

A large 1½ T. window unit will take care of a 1000 sq. ft. and prove well worth its installation in the stripping and platemaking room. The platemaking operation would be conducted under steady temperature and humidity conditions. High temperature and relative humidity will definitely affect the coating through what is known as "dark reaction."

Attending the recent NAPL Convention were the following: Harold Lang, President, Litho-Craft Co., Stamford, Conn.; Rudolph Fritsche, President, Fritsche Plate Co., New York, N. Y.; Hector Audino, President, Sur-Chem, Inc., North Bergen, N. J.; and Robert A. Luciano, Foreman, Haynes Lithograph Co., Silver Springs, Md.

Coated Dampener

When the chromium coated dampener accumulates a coating of ink after the day's run, something needs adjusting. It usually signifies that too much ink is being fed to the plate and is visual proof of the statement that violation of any of the three minimums of ink, pressure, or water, leads to trouble; (of course, the coating of chrome applied must be porous, and it should never be buffed.) A film of gum applied and then dried to the surface before the day's run is common practice. Cleaning with phosphoric acid and pumice powder is practical procedure. Passing mention was made of the rough surface on the metal core of the dampener, rough for the purpose of holding on the cover. Should this cover twist, marks will be evident on the finished product. A problem for the ink man was set when, in folding a job on a friction feed folder, the ink kept rubbing even though it was dry to the touch on the sheet. Addition of paraffin wax to the ink would tend to make it slippery, but the real solution lay in running the sheet on a suction feed folder.

Room Equilibrium

A question of paper being brought in from the stock room (where the temperature ran to 85 deg.) to a pressroom where the temperature was down to 72 deg. bringing on static troubles, elicited the opinion that low temperature induces static whereas high temperature reduces the static. This introduced the thought that storage conditions should be in equilibrium with pressroom conditions where the paper is to be used.

Square Paper

Offset pressroom executives demand square cut sheets and occasionally trouble arises when trimming is off. Sheets as large as 72 in. are square trimmed at the mill; because of the physical limitations of the cutting machines, there has to be a tolerance. Paper at the proper moisture content and square trimmed at the mill will be found to have bowed edges along the short end if the paper absorbs moisture.

Elevating Presses

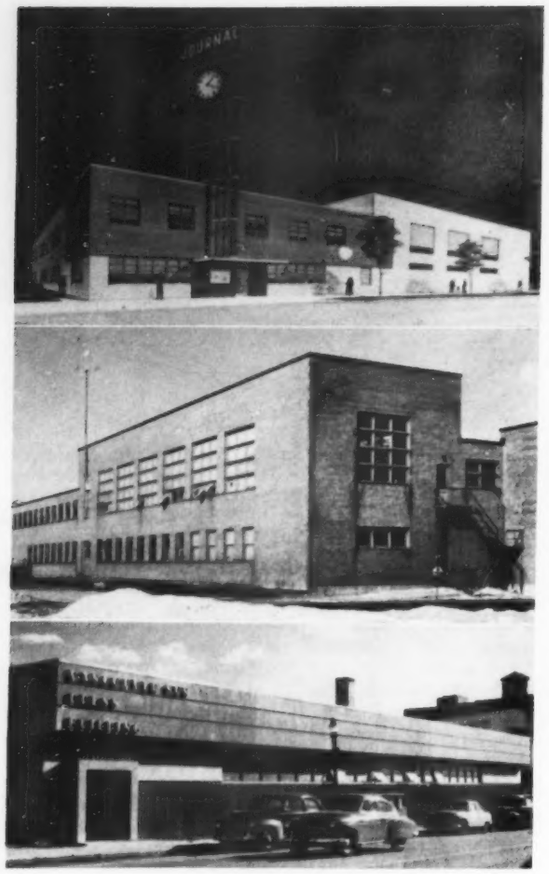
Are presses going up or down? (I don't mean in prices.) One school of thought demands a pit beneath the press; another school is establishing raised presses; carton plant presses have been mounted on high bases for some years. This permits a maximum board load into the feeder piles and out the delivery end without press shutdown to reload so often. Operator fatigue that sets in has compelled building movable platforms around these presses so that the press operator has fewer steps and accident risk is diminished. The pit under the press permits greater accessibility of the mechanism for service. It was pointed out, however, that drainage facilities must be supplied because a pit could be a beautiful catchall for oil and water. In that direction, mention was made of the placement of I beams for the bed of the press, laying these beams on their sides so they acted as troughs in which oil and water will drain off.

Printing Length Change

Change in printing length of the work can change print quality. Speed of the various units is changed when changing the circumference of the cylinders. Disturbances of the ideal condition will have some effect. Rubbing action may be set up on the plate. The form roller setting may have to be changed to fit the new circumference.

Lint and Dust

Lint and dust from coated stock can be quite a problem and so a device is being marketed that consists of a brush which dusts the sheet as it passes through the press and a vacuum cleaner nozzle which picks up the brushings. Examination of the residue taken from the device after a press run forces realization of the problem. Sometimes the dust from the dry spray is mistaken for lint or dust on the paper. Here again great stress was placed on cleanliness and the need for dusting and cleaning the press regularly. This item of housekeeping pays off in large gobs of time and money. (Here too, attention was called to the great difference in



Improve Plant Facilities — Here are shown views of printing plants in this country and Canada which have expanded their facilities and included equipment made by Wood Newspaper Machinery Corp. in their modernization programs. At top is an artist's drawing of the new home of the Lorain (O.) *Journal* where a Heavy Duty Pony Autoplate has been installed. The new building, said to be valued at $1 million, will provide over 40,000 sq. ft. of floor space. Shown in the center is part of the expansion of the Montreal Standard Publishing Co., Ltd., Montreal, Can., where two Wood Automatic Thy-Motrol Autopasters, two Wood Automatic Running 5-Belt Tensions and two Wood 3-arm Standard Reels are to be installed. At the bottom is a view of the Vancouver (B. C., Can.) *Sun* new quarters in which has been installed four additional Wood Electrotab Autopasters bringing the total to 14 Electrotabs in operation in the *Sun* reelroom.

the papers used for both processes.) Clean pressrooms and clean paper mills are a must with machinery functioning at the peak of efficiency. Sharp cutting knives needed in the mill and an explanation of their limitations also was gone into by the paper manufacturer representative. It is possible with a microscope to identify the hickey or dirt particle and determine whether it comes off the rollers, dampeners or paper.

Pigmented Stocks

Pigmented offset stocks are of three types: (1) Pigment lays on the surface; advantage lies in printing will be put on the pigment with stability. (2) Machine coated paper with a heavy deposit of color on surface (these are coated but uncalendared): (3) Pigment is added to the surface size unit thus depositing pigment on the surface. Finally, laying the ink on the pigment and not on the fibre was said to be a step in the direction of precise printing.

Quick Set Inks

Quick set inks are hard to run on a light form. Inks for this purpose should be made a bit more towards the conventional type of ink, rather than the quick set ink. Jobs printed with quick set inks are run with much less ink in the inking system than with the conventional ink. When the rollers strip while running quick set inks it is wise to check the glaze of the inkers. If the riders strip first, then the pH of the fountain solution is off. Glazed rollers may be brought back to the mat or live condition by use of the three solution washup, a method which removes the gum coating from the roller surface. Should this not work, then a paste of oelic acid and pumice powder is applied to the rollers, the press is left running a while and then washed up with the three solution materia.

Pre-sensitized Plates— Plate Making Materials

During the convention, many types of plates, pre-sensitized and deepetch, and conventional materials for their production were demonstrated and publicized. All of them can be said to have their place. To familiarize the trade with their attributes, properties and qualities, their advocates were permitted a brief period to discuss their products, following which a question and answer period took place.

In this way we learned of the Azoplate plate, the Warren Company Fotoplate (the paper plate), the Alum-O-Lith plate with both sides sensitized, the Aller plate, the Harris plate, the Metalife coating, the Premco plates of Silvalith and Ozalith, the Unico aluminum plate, the diazo plate and copperozed images in deep-etch plates of aluminum only (not zinc).

Pre-sensitized plates have their place in industry. Some claims for stability of the plate show distinct advantages over coatings as applied in shops. Yet production shops have not reached the point where they feel operations are practical with smooth surfaces and pre-sensitized plates. In production work, control counts enormously. For that reason, as much of the process and its materials and operations are kept under one roof where management has positive control.

Pre-sensitized multi's and paper plates show a trend of replacement for the zinc albumen multi-plate in the industry. Base aluminum metal with a pre-sensitized coating or coating on paper, and laminates with a surface similar to litho stone, a claim of quality unequalled by deep-etch, the image absorbed by the coating, no water necessary for development, just a desentizer and lacquer, coating guaranteed for a year. They contain no bichromate, possibility of holding the plate on the photocomposing machine overnight to complete the shots, diazo sensitizer needs no gum or lacquer, breakdown of these pre-sensitized plates comes gradually. Just a synopsis of some of the statements that we've heard.

When trouble is found printing a solid (getting white spots in the solid instead of a complete solid) from the pre-sensitized plate, four possible causes were outlined. Actually, the lay of ink should be superior to that obtained from the conventional grained plate for the pre-sensitized plates have a flat surface. It has been found, however, that the settings between the rollers and the plate as well as the dampener settings need be much more critical, with a great deal less squeeze being needed at all points of contact. Excessive water will show on such a solid. Age of the coating on the plate is another factor. Blankets, too, may be at fault—a more tacky blanket such as a soft old blanket producing possibly better results. In the move to eliminate embossing, the blanket maker has produced a hard blanket which works well in most cases, but occasionally a condition such as the one here mentioned might be cleared up by trying one of the old blankets taken off the press because of its softness. Of course, ink may be a contributing factor when it fails to work well with the dampening solution. Use of a touch of stiff varnish might bring the ink up to workable inking qualities.

A question asked on the largest run possible on pre-sensitized plates brought the answer that from a 25½ in. by 36 in. plate 10,000 impressions had been taken (or as many as they used to lie about on conventional plates.) The Kodak plastic resist (KPR) was credited with a run of 1,000,000. It was stressed that the diazo type of plate with its smooth surface necessitated a more critical setting, with minimum packing between the plate and blanket, substituting 0.0015 in. packing for the 0.004 in. advocated by the manufacturer, with the bi-metallic plate as close to 0.002 in. as possible; these recommended settings prevent slippage. Educational work was deemed necessary to get the maximum out of these new developments, stressing the use of no more packing than will produce an even print and using the minimum pressure between blanket and printing cylinder in printing.

Color By Overprinting

How to obtain colors in any major printing process through practical system — Artists and printers must look upon each other's craft as part of theirs

By DONALD E. COOKE

IT has been said that there is nothing new under the sun. This may well be true. Certainly there is nothing basically new about flat-color overprinting, yet in my contacts with printers, lithographers, engravers and other allied craftsmen, I am continually amazed to find that many of the ideas I have expressed about this principle are met with varying degrees of surprise, and sometimes—though rarely—consternation.

First let it be stated firmly that *Color By Overprinting* is a principle, not a mere trick or passing fad. It is also the title of a book which has evolved from years of research and which is being published by the John C. Winston Co.

We are in an unstable age of scientific progress when new developments, inventions and processes seem to take place with such alarming rapidity that it is impossible for a technician to keep pace with them, let alone master them all. No printing plant, for example, could afford to purchase every new machine as it emerges from the research laboratories. Furthermore, the alert printer generally has enough trouble maintaining high quality craftsmanship under day to day pressure without taking time out to train men in dozens of new techniques. For this very reason, *Color By Overprinting* should come as a refreshing departure. It requires no new equipment. It is easily done with standard plates on standard presses and it is applicable to all major processes: Letterpress, offset, gravure, flexographic, and silk screen. All it requires, to open a vast new territory of color printing, is a small measure of imagination and a copy of the book, *Color By Overprinting*.

What's on Third?

Most printers are aware that when a transparent color overprints another, a third color is produced. With simple primaries, the results of such overprinting are easily predicted. Blue over yellow will produce green; red over yellow will produce orange; and blue over red will produce purple. Thus far we are in the primer of color. If overprinting stopped here, it would have very limited application. But what happens when green overprints red? Or when gray overprints yellow? And to carry speculation a step farther, it would be interesting to see what occurs when *three* transparent colors such as orange, purple, and green are superimposed. A specific combination is easily tested, but a few simple mathematical calculations show that thousands of such groupings are possible. While no one could test them all, some standard, or guide, by which overprinting effects could be predetermined should be invaluable.

Oddly enough, so far as printing is concerned, we have probably worked much harder to avoid accidental overprints of flat color than to find ways of controlling them. Current in New York is the story of a pressman who was discharged for permitting an unplanned overlapping of inks to go through a press run. The hapless pressman "thought it looked good." Undoubtedly something like this has happened more than once, and will happen again.

But if a job were planned from the beginning to make full use of the overprinting principle — what then? What new effects, what brilliant combinations and startling color contrasts might be achieved?

Experimentation Began

It was because I wanted the answers to these questions myself that I began, over five years ago, to explore the potentialities of flat-color overprinting and to work out a system of color charts for my own use. As an art director, I was continually plagued by a need for these charts, which did not exist. Experimenting with the newly introduced Bourges overlay sheets, I became fascinated by the multiple effects of overlapping colors.

These sheets of acetate, coated with transparent color, offer the artist a new medium directly related to the printing process, since they provide preseparated colors almost as though the artist had drawn directly on the press plates. Working with a stylus on Bourges sheets, an artist can remove the color coating at will, leaving areas of clear acetate. When two or more of these transparent overlays are superimposed, each stroke of the stylus permits some *under* color to show through, and there is the beginning of a fabulous new art by subtraction. Instead of building color on a white surface, the illustrator or designer works in reverse, from dark to light.

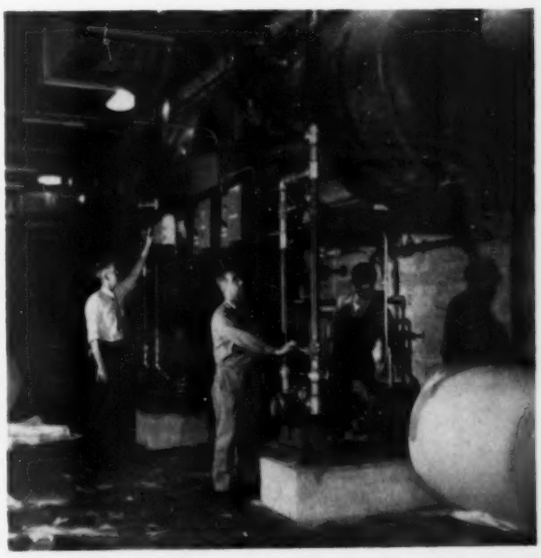
Overprint Artwork Data

Although printing craftsmen are not concerned with the various art techniques involved, certain facts about overprint artwork should be pointed out. As time goes on, camera rooms all over the country will be confronted with more and more Bourges and other kinds of color overlays. In my own research with this type of artwork, I have learned that certain notions prevalent in art schools a few years ago have been proved fallacious. Briefly, the true facts are these:

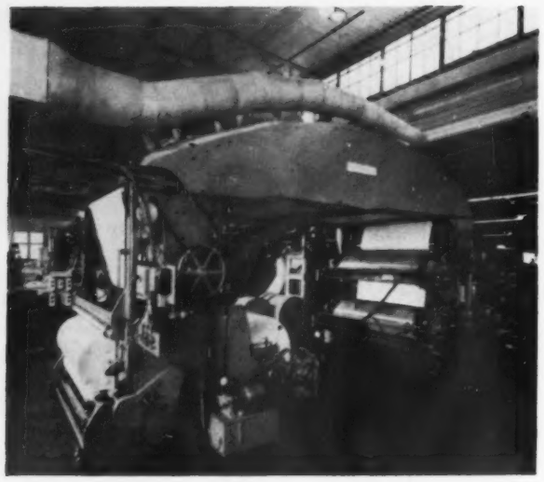
1. Any flat color can be photographed in line by using the proper filter. *However*, the color should be at least a 50% value, or strength, to avoid the necessity of recontacting for sufficient density in the negative. This is particularly true, of course, with shades of blue or gray. Even a 50% blue must be recontacted to produce sharp line negatives.

2. Transparent inks can be formulated to match Bourges colors so exactly that when they are overprinted, the print and original artwork are virtually identical.

3. Heavy solid overprinting up to four impressions, *or 400% build-up of inks*, can be run successfully by offset if the paper and inks are right. This statement is based on actual experience with a two-color press. We have not attempted such a heavy overprint on a four-color press, though I believe it to be possible.



Ink Tanks Installed—Installation of tanks for yellow, red and blue inks has been completed beneath the color press units at the Chicago (Ill.) *Tribune*. From these tanks colored inks are piped directly to the comic press units, on which the turning of a valve releases ink from the pipes into the fountains. Prior to completion of the installation, colored ink was carried from nearby tanks to the fountains of each color press unit in buckets. The flow is controlled by an electric pump attached to each tank, which is equipped with two control buttons and a light to indicate when the pump is in operation. To prevent the ink from settling, it is circulated within the tanks and through the pipes that circle each press unit. Circulation is maintained for a short period each hr., even though the press units may not be in operation. The yellow ink tank capacity is 2500 gal., and the blue and red ink tanks each are built to hold 1500 gal. A 1000-gal. black ink tank, from which ink is piped to *Tribune* press units on the floor above, has been in operation for several years. Shown inspecting the color tanks are (left to right) Kenneth McNitt, electrician; Harry Reid, black press foreman, and John Hunt, electrician.



Kidder's 200th Press — The 200th flexographic press produced by the Kidder Press Co. is shown here, a 65 in. Heavy Duty Flexo-printer. It is shown here erected at the Kidder firm's plant in Dover, N. H., prior to shipment. This particular model is designed to operate at a production speed of 750 f.p.m. It is equipped with a drying system which features automatic temperature control.

4. Heavy solid overprinting up to 300% can be run successfully by letterpress. Again, this is based upon actual experience.

5. Probably even more impressions could be overprinted in both processes if necessary, but until recently there has been no need to develop inks for such a purpose. Basically this is an ink problem more than a matter of presswork, and it is extremely important for the printer to consult his inkmaker about any major job involving flat-color overprinting.

Produces Book on Overprinting

To demonstrate the above points and to show how many practical applications of overprinting can be made in books, magazines, advertising, packaging, greeting cards, and many other printing fields, I have assembled a unique collection of artwork. This collection comprises the illustrations in *Color By Overprinting*. Many of the examples are by the top illustrators and designers in the country, including such men as Albert Dorne, Bradbury Thompson, Thomas Vroman, Henry C. Pitz, Norman Guthrie Rudolph, Aldren Watson; and representing such firms as N. W. Ayer & Son, Container Corporation of America and *Reader's Digest*. These are but a few names represented in the book. There are many others. The examples run the gamut from purely abstract design to realistic illustration. Some are reproductions of overprints which have actually been produced commercially. Others were drawn especially for the book.

Each overprint is accompanied by explanatory text, with full information on the art, reproduction and printing techniques employed. The illustrations are also keyed to the series of color charts, so that a student of overprinting can see exactly what inks are used to produce the various overprinting effects.

165 Color Charts

Actually the color charts themselves make up the bulk of *Color By Overprinting*. They occupy 165 of the 256 text pages, and represent a major feature of the book. Starting with eleven base inks carefully selected for their maximum use in overprinted combinations, the colors are arranged so that each of the 165 color charts contains: (1) A tri-color group which — in overprinting — produces seven flat colors; and (2) Eight four-color groups, each producing 15 separate blocks of pure and overprinted color.

These groupings were devised without ever being seen in actual color, yet the printed result could be determined with mathematical certainty. On any given color chart page, for example, as many as 71 separate and distinct shades of color can be counted, made up of the eleven basic inks and their overprints. While many of these shades are repeated on other chart pages, no two pages are exactly alike, and some new colors appear on each succeeding page of the 165 color charts. Yet each chart is made up of the same eleven inks.

This fabulous array of color serves as the foundation for building infinite combinations, since variations in strength and brilliance can be derived from the original basic inks.

Indexing System

So far so good, but even these charts would be more decorative than useful without some means of locating quickly any specific color group. Therefore an indexing system has been devised, making it possible for the student of overprinting to find the page showing any three-or four-color group of his choice. In addition, the book provides a diagrammatic breakdown of the component colors in each chart.

Though most of the book is printed by offset, a number of letterpress inserts are included, simply to show that there is little difference between the processes so far as results are concerned. Naturally it would have been ideal to include flexographic, gravure and silk screen examples as well, but some limit had to be set for obvious economic reasons. Actually, such examples would offer very little contrast. Again, they would merely serve to indicate that the same results can be achieved by all processes.

In order that overprinting may become a universally understood method, more artists must learn to think of printing as part of their craft, while printers must look upon art as a part of theirs. This may seem an impractical dream, yet actually it is the only practical approach to contemporary art.

If we may be allowed to depart from purely technical considerations for a moment, it might be worthwhile to view the relationship between art and printing in today's world.

Art Language Not Understood

Unfortunately, too many discussions of art are on a plane nobody can comfortably understand, and in language invented exclusively by and for an art hierarchy. The man who first said, "I don't know anything about art, but I know what I like," made a far more profound utterance than is generally realized. "What I like" is all anyone really knows about art. "*Why* I like it" may be a study for psychologists, but for an artist to delve too deeply into his mental processes would in most cases serve merely to confuse him. Perhaps that is what is wrong with so much "modern" art.

The fact is, it is time artists as a class stop talking about what makes art modern and do something to make it so. They might take a big step in this direction by studying the printing press and by recognizing that this intricate piece of modern machinery is potentially as much a tool for the contemporary artist as his pen or brush. For creating a genuine contemporary art, it is the most important tool of all. In a society where at least 90% of all art we see is in some printed form, we should certainly make more effort to coordinate the work of artists and printers so that the printed piece, not the so-called "original" artwork, is the real finished work. Such a concept would throw a completely new light upon the artist's approach to his craft. A grasp of this viewpoint would mean that more artists would strive for the most effective printed result, rather than for the subtleties of paint which no printing press can duplicate.

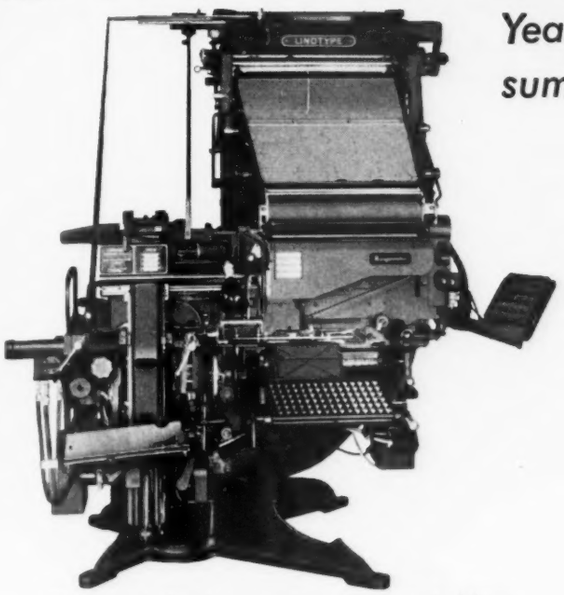
Artists Proficient in Overprint

From this it may appear that the printer must wait for the art world to reform itself before overprinting can be used, but such is far from the case. Actually many artists are proficient in overprint techniques even now. More and more Bourges sheets, as well as other overlay media, are being used and reproduced. Furthermore, designers have planned decorative overprinting with great success for many years, and the printer himself can often convert a commonplace two or three-color job into something strikingly beautiful by allowing simple tint blocks or typographic designs to overprint and form new color patterns.

It is my own belief that even a small printing shop would profit by including an art department in its expansion plans, even if the "department" consisted of a single full-time artist. Working on the spot, learning to build artwork and design upon a foundation of first-hand printing knowledge, a clever artist can earn his salary many times over.

Color By Overprinting should become standard equipment of every print shop as well as every art department. It is a veritable dictionary of color, as well as an encyclopedia of pre-separated art and flat-color printing techniques. By standardizing eleven transparent inks and showing them in every possible grouping of overprints, it offers at last a permanent color file with innumerable uses. Referring to the charts, a color group can be selected for its suitability to an illustration or to a printing job. Once a group of transparent inks is established as ideal for the purpose, the chart for

NOW... the new **Rangemaster** Linotypes ... more and bigger type for less money



This sample food-store ad was keyboarded from the main magazine of a Rangemaster Model 35. There's no expensive "cutting in." You simply mix from any two adjacent magazines.

Tuna white flaked canned 6 oz **38c**

Perch tasty fresh frozen lb. **39c**

Shrimp jumbo fresh frozen lb. **76c**

Cod frozen fresh fillets 6 oz. **39c**

Years of Research and Engineering summed up in one word . . .

Rangemaster

The new Rangemaster Linotypes embody engineering advances so basic and comprehensive that they are clearly superior for setting big display and heads.

Rangemaster Linotypes offer publishers:

. . . most economical composition for big heads and display faces.

. . . greater efficiency and larger profit in advertising composition.

. . . superior mechanical features for faster production and ease of maintenance.

. . . widest selection of various type sizes for versatile keyboard layout.

No other mixer has the main magazine capacity of the Rangemaster Model 35 illustrated. Its wide 90-channel magazines provide you with 18 *extra* channels to keyboard display characters through normal 24 pt. and condensed 36 pt.

With wide 72-channel magazines you can keyboard through normal 36 pt. and condensed 48 pt. Rangemaster Model 36, with auxiliary magazines, sets sizes up to condensed 60 pt. Models 33 and 34 set the same sizes as Models 35 and 36, but do not mix.

Rangemasters are daily proving their superiority by increasing composing-room efficiency on leading newspapers. For details on the Rangemaster line, get in touch with your Linotype agency. A demonstration will be arranged.

Linotype's new Hydraquadder saves time and money setting quadded lines. Available on new machines or for installation on Linotypes in your own plant.

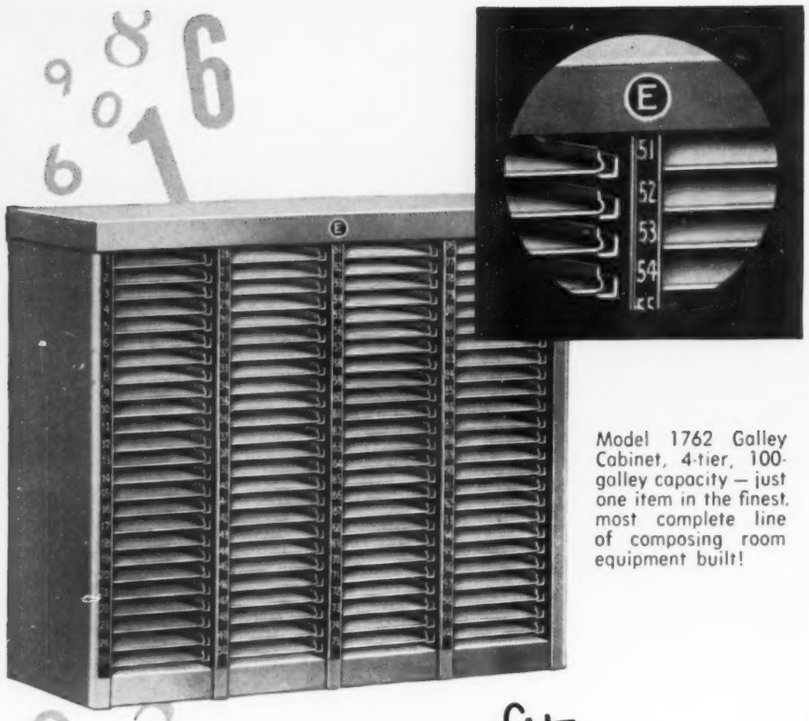
• LINOTYPE •

MERGENTHALER LINOTYPE COMPANY
29 Ryerson Street, Brooklyn 5, New York

Set in Linotype Corona and members of the Spartan family

Agencies: Atlanta, Boston, Chicago, Cleveland, Dallas, Los Angeles, New York, San Francisco. **In Canada:** Canadian Linotype, Limited, Toronto, Ontario

LEADERSHIP THROUGH RESEARCH



Model 1762 Galley Cabinet, 4-tier, 100-galley capacity – just one item in the finest, most complete line of composing room equipment built!

and Profit

SAFETY IN NUMBERS

Store your galleys in the numbered runs of Hamilton Galley Cabinets. Know they're safe from damage within that rugged, welded steel frame—right there when you need them, quickly identified, easily removed.

You save floor space too, for Hamilton cabinets can be stacked two-high even when fully loaded. They're that strong.

It all adds up to composing room efficiency and savings that naturally lower operating costs—for higher profit on your work. See the cabinets, get the whole Hamilton story, from your dealer today.

Hamilton
PRINTERS EQUIPMENT

HAMILTON MANUFACTURING COMPANY • Two Rivers, Wisconsin

that group will show the full range of colors those inks will produce. Conversely, the component inks of a given color may be determined; for example, a shade of maroon, located in one of the tricolor groups might be composed of orange, process red, and royal blue. The same shade, or something very close to it might also be produced by three other basic inks in combination.

Choose Pleasing Combinations

Like any color selector, *Color By Overprinting* may be used simply to choose pleasing color combinations. But the book differs from ordinary selectors in many important respects, not the least of which is the fact that it contains the greatest range of flat colors ever to be displayed in a single volume. This fact takes on particular significance when it is realized that only eleven tints are used to produce the entire system of charts, hundreds of combinations, and more hundreds of individual shades of color.

Much could be written about the special problems involved in the production of the book itself, and perhaps these aspects of *Color By Overprinting* will furnish material for future articles. At present, however, special mention should be made of the ink research by Bensing Brothers & Deeney, whose laboratories have met every demand made upon them for this unusual project. Working closely with the printer — National Advertising Mfg. Co. of Philadelphia—Bensing Brothers had an opportunity to test the inks on a variety of average-grade papers, which were put through a two-color offset press even before any attempt was made to print the prospectus for the book.

For these trial runs we selected an illustration with maximum areas of 400% overprint coverage. Only on coated paper and on the smoothest stocks was any offset observed on the backs of sheets. Probably this could have been eliminated by differently formulated inks, or by special treatment on press, but no effort was made to handle the trial runs with unusual care. Our purpose was to learn what would happen if such a picture were printed under routine conditions. The results proved without question that the heaviest overprint can be handled as easily as any other job in four flat colors.

Caution is Advised

This should not be taken to indicate that any inks on any paper will produce a successful 400% overprint. Nor should printers assume that there are no presswork tricks to the overprinting trade. As in any form of printing, speed, efficiency and quality will all increase with experience, and until such experience is behind them, pressmen should approach unusual overprinting jobs with some caution.

Above all, printers who undertake overprinting will do well to benefit by the experience of a good ink manufacturer, and by the information offered in this book. As books go, *Color By Overprinting* is high-priced at $25 per copy. But as a piece of printer's equipment which can save thousands of dollars in time and furnish more thousands in ideas it is a remarkable bargain. Because it is a highly specialized publication, it will be available only through the publisher. All inquiries or orders should be addressed to The John C. Winston Co., 1010 Arch St., Philadelphia 7, Pa.

Get Acquainted with the PEE YELLOW PAGES

May we serve you? We're the "Yellow Pages" of P.E.E.'s Annual Reference Issue and eager to do your bidding. We have the answers to your questions regarding equipment and supplies available for all plant operations.

Any questions about TRADE NAMES? We have the answers from ABC to ZOMO.

Looking for a certain manufacturer, supplier or dealer? We have a comprehensive registration, listed alphabetically.

We're spilling over with a lot of good "tips" on purchasing equipment and supplies for the printing industry, so make it a habit to consult the "Yellow Pages".

"WHERE TO BUY"

Printing Equipment and Supplies Reference Issue

a few copies left — $2.00 each

"Our new production manager is from Texas!"

Air Conditioned Plant

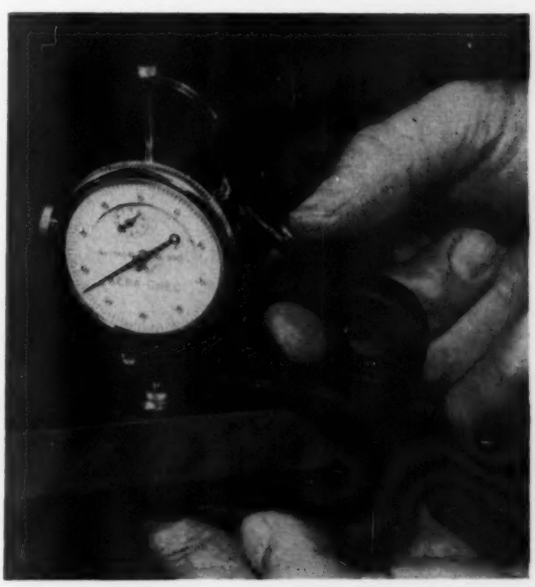
Air conditioning of the entire plant has been completed at the Majestic Press, Inc., Philadelphia. In making the announcement, President Jack Green said that this is the first time any printing firm in the Philadelphia area has provided for temperature and humidity control throughout the entire plant.

The job has been custom-engineered to provide an air flow of 40,000 cu. ft. per min. through the first floor, which houses the production departments. The offices, art department and other facilities on the second floor receive 25,000 cu. ft. per min. This permits a complete change of washed and filtered air every 3 to 4 min. throughout the entire building.

Temperature is maintained at 78 deg. F. relative humidity at 48 deg. F. in both winter and summer. If the temperature varies 1 deg. during any season, the air conditioning system, which operates as a heating unit in the winter, makes an automatic correction.

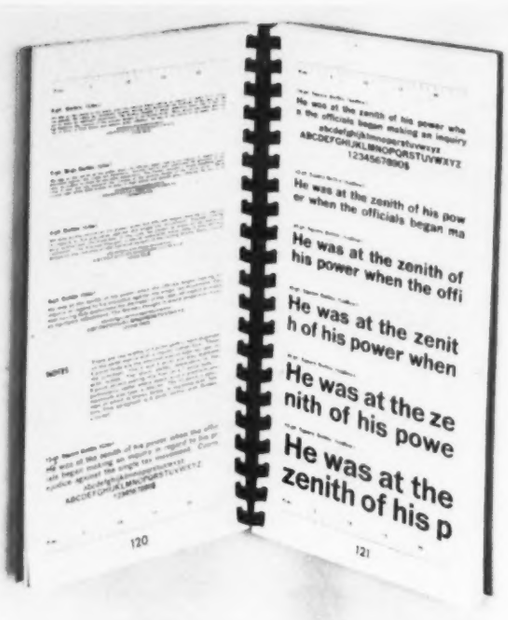
It is expected that this close control of temperature and humidity the year around will result in faster drying between press runs, improved register and quality control on color work, more efficient, trouble-free operation of presses and other equipment and greater employee efficiency.

The air conditioning equipment at Majestic includes three compressors, each equipped with a 50 h.p. motor; two evaporative condensers, each with a 75 T. capacity and each weighing 7000 lbs.; two 167 KVA air-cooled transformers; thousands of feet of piping, ducts and wiring; and a completely automatic electrical control and thermostat system.



Hand Held Thickness Gauge—The Acra-Chec Co.'s Hand Held Thickness Gauge may be used for measuring photoengraved plates, mounted cuts, cut base, stereo shell and flat casts, electros, plastic plates, type and slugs, press blankets and paper. The 2 in. direct reading dial is graduated in 0.001 in. divisions with a vernier dial for accumulated computation. The instrument may be used to measure thicknesses up to 1 in. The dial face may be adjusted so it can be set to zero with a type high standard block. The measuring spindle is raised by pressing down on the thumb lever. Simply releasing the thumb lever permits the spindle to contact the material being measured. The 1 in. diam. anvil keeps the spindle at right angle to the material being measured. Please mention PEE No. 257 when requesting further information.

High Utility Type Specimen Book—The type specimen book published recently by Cecil H. Wrightson, Inc., it seems to *Printing Equipment Engineer,* is a thoroughly practical volume. We write "volume" because it consists of 300 pages. Actually, the book was prepared for printers, advertisers and layout people. A type and copy fitting chart which provides a simple method for estimating the number of type characters and the amount of copy or space based upon Linotype, Ludlow, Monotype and Foundry type faces.


He was at the zenith of his power when the officials began making an inquiry
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In the Foreword it is stated "A showing of all faces in bulk would require a volume entirely too large for easy use. The showings have been abbreviated for the user's convenience, yet in each case we believe sufficient matter has been set to supply a workable idea of the type face." So far as possible the specimen lines in the smaller faces contain each letter of the alphabet. A 24 pica scale is printed at the top and bottom of each page. Type faces are identified with respect to the machine upon which they are cast, such as Lino, Ludlow, Mono or Foundry. In certain faces it is stated that a particular type is available only in reproduction proof and/or electrotype form. The services afforded by Cecil H. Wrightson, Inc., are numerous—a list of 20 services being listed.

Twenty pages are devoted to specimens of display faces available in photocomposition form. Type matter can be furnished as straight black and white proofs, as reverses or on film. Blowups can be made photostatically.

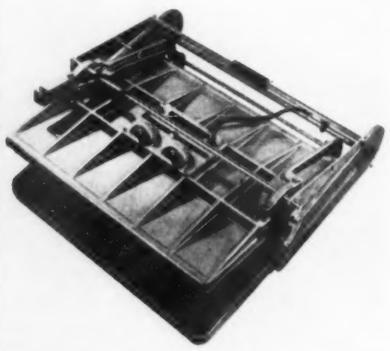
A comprehensive selection of borders, ornaments and initials is shown. Also shown are specimens of the company's illustration services available as electros or in reproduction proof form.

Specimen Book of Types—Published by Cecil H. Wrightson, Inc., 74 India St., Boston 10, Mass. Size, 5½ in. by 10¾ in., exclusive of plastic comb; by ¾ in. thick; 300 pages; clear plastic guard covers over regular covers. Price, $5 per copy.

Seal Flush Mounting Presses

Four models of presses for flush mounting photo-engravings and/or electrotypes have been developed by Seal, Incorporated. The presses are designed for use by photoengravers and for printing plants, especially those maintaining pre-make-ready departments. All four presses are of the bench mounted type. The presses are made in the following sizes: Commercial model, 18½ in. by 23 in.; Jumbo model, 15 in. by 18½ in.; Standard model, 14 in. by 17 in.; Junior model, 8½ in. by 11½ in. As will be seen in the illustrations, the platen is of the clam shell type. The Standard, Commercial and Jumbo models are equipped with adjustable thermostatic heat control which can be adjusted to a temperature range of 180 deg. to 350 deg. F. and also with an automatic timer for heat dwell. The Junior model platen is preset at the factory to maintain 350 deg. F. temperature. All presses are supplied with a control for adjusting the pressure while mounting. All four models of presses are supplied with a 1 in. thick felt covered sponge rubber pad which is inserted in the base. When the press is to be used for mounting photoengravings the operator removes the pad and replaces it with a thinner sponge rubber pad supplied with the press. Afterwards, if some proofs are to be dry mounted or wrinkled paper is to be straightened, the 1 in. thick pad can be replaced in the press. Pre-coated blocks or certain bonding films can be used as the adhesive element in mounting cuts, either originals or electrotypes to wood or metal base. Please mention PEE No. 300 when asking for further information.

Junior Model



Commercial Model

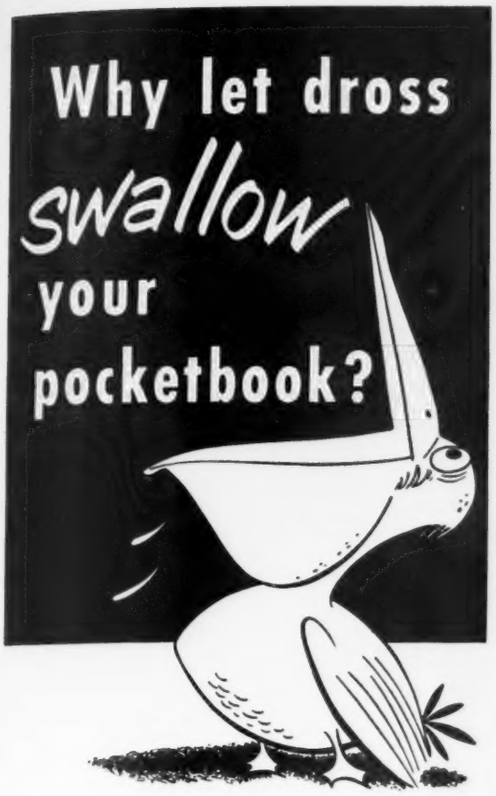
ANPA Mechanical Committee

The Mechanical Committee of the American Newspaper Publishers Assoc. has been announced by President Richard W. Slocum as follows: Chairman, Joseph E. McMullen, Milwaukee (Wis.) *Journal;* Leven T. Deputy, Dallas (Tex.) *News;* William Dwight, Holyoke (Mass.) *Transcript-Telegram;* Charles Fredrickson, Westchester County Newspapers, White Plains, N. Y.; Henry Garland, Pittsburgh (Pa.) *Post Gazette;* W. E. Gibbons, Portland (Ore.) *Journal;* Glen R. Hutchinson, Los Angeles *Times* and *Mirror;* George F. Marshall, Portland (Me.) *Press Herald, Express* and *Telegram;* J. Harold Mintun, Pittsburgh (Pa.) *Press;* Eugene Miller, Hearst Newspapers, New York, N. Y.; John W. Park, Chicago *Tribune;* W. Watson Southam, Southam Newspapers, Montreal, Can.; J. L. Stott, Richmond (Va.) *News Leader* and *Times-Dispatch;* Earl R. Weiskittel, Youngstown (O.) *Vindicator;* Allan M. Woods, Long Island (N.Y.) *Newsday.*

ATF Sales Increase

An increase in orders for printing presses and equipment over the past four months has been reported by Edward G. Williams, President, American Type Founders, Inc. Williams said orders for presses and equipment were running about 10 percent above expectations for the last four months with orders for June and July exceeding April and May figures. "Some of the new orders for printing equipment are undoubtedly due to a more optimistic economic outlook among printers. When the future looks good, that's when investments are made in capital equipment," Williams said.

Many of our production executive readers will respond to your Position Wanted Ad in the Classified Section of *Printing Equipment Engineer.* Rates on p. 83.



To avoid waste and save money follow our remelting instructions. Exchange your dross for an equal weight of Imperial Plus Metal. We'll be glad to supply an Imperial Dross Drum in which to collect your dross.

Imperial

TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

KEMP 10 TON OVAL POT installed by the Montreal La Presse to replace old oil underfired pots.

PUBLISHER SAVES 56% ON CASTING COSTS WITH NEW KEMP OVAL STEREO POT

Fuel Savings alone amount to $185.83 per month with Kemp Unit.

By installing Kemp equipment, this Canadian publisher reduced his cost per plate from 3.34c each to 1.46c...*a 56% saving*. Fuel savings amounted to *$185.83 per month* during the first twelve months. Also by casting at a *faster* rate with *less* spoilage, overtime costs have been slashed substantially—$4,000 were saved in the first year.

Casting room temperatures have *declined* from an average of 100-105 degrees to 80 degrees or lower. And instead of drossing 3 times a week as formerly, drossing is now done *once* a week with a *66% reduction* in dross losses. Another case where Kemp Engineering delivers the goods in terms of dollars saved for its customers. Why not find out how Kemp can save you money, too?

KEMP OF BALTIMORE

IMMERSION MELTING POTS

for technical information and facts on how we can help you with your melting problems, write:

THE C. M. KEMP MFG. CO.
405 E. Oliver St., Baltimore 2, Md.

CARBURETORS • BURNERS • FIRE CHECKS • ATMOSPHERE & INERT GAS GENERATORS
ADSORPTIVE DRYERS • METAL MELTING UNITS • SINGEING EQUIPMENT • SPECIAL EQUIPMENT

Recent Equipment Reports

Miehle Offset Presses Installed

Miehle Printing Press & Mfg. Co. has announced installations of Miehle No. 29 Offset Presses in the following companies: Carpenter Litho & Printing Co., Springfield, O.; Wm. B. Burford Printing Co., Indianapolis, Ind.; E. I. DuPont de Nemours & Co., Philadelphia; Bordeau Company, West Springfield, Mass.; Keeler-Morris Printing Co., Inc., St. Louis, Mo.; Color Crafts, Inc., Stamford, Conn.; Edward Hine & Co., Inc., Peoria, Ill.; Excelsior Printing Co., North Adams, Mass.; Packers Package, Inc., Muncie, Ind.; De Palma Printing Co., Inc., New York, N. Y.; Hinkhouse, Inc., New York, N. Y.; and Process Color Plate Co., Inc., Chicago.

Miehle Equipment Installed

The Miehle Printing Press and Mfg. Co. has announced the following installations of its equipment: No. 41 Single Color Offset Press at Monitor Publications, Inc., Denver, Col.; No. 61 Single Color Offset Press at McCandlish Litho Corp., Philadelphia; No. 49 Single Color Offset Press at Nazarene Publishing House, Inc., Kansas City, Mo.; No. 70 Cutter and Creaser at Consolidated Paper Co., Monroe, Mich.; No. 76 Cutter and Creaser at New Haven Board & Carton Co., New Haven, Conn.; No. 29 Letterpress at Rough Notes Co., Indianapolis, Ind.; No. 76 Five Color Offset Press at Container Corp. of America, Chicago; No. 76 Two Color Offset Press at Manz Corporation, Chicago; No. 49 Two Color Offset Press at Inland Press, Inc., Chicago; No. 41 Two Color Letterpress at Charles Francis Press, Inc., New York, N. Y.; No. 56 Two Color Letterpress at American Colortype Co., Clifton, N. J.; and a No. 61 Five Color Rotary Press at Multi-Colortype Co., Cincinnati, O.

Vertical Press Installations

Each of the following companies recently installed a Miehle V-50 Vertical press according to a report by Miehle Printing Press & Mfg. Co.: Beacon Press, Inc., New York, N. Y.; Acme Printers, Inc., Salem, Va.; Whitney & White, Ranson, W. Va.; University of Kansas, Lawrence, Kan.; C. E. Sheppard Co., Long Island City, N. Y.; Creative Printing Co., Baltimore, Md.; Link's Label Works, Nashville, Tenn.; Hester's Office Supply Co., Lubbock, Tex.; Lenarz & Sons, St. Cloud, Minn.; Bel-Gra Print Shop, Williamson, N. Y.; Dan W. Cash Printing & Stationery Co., Waco, Tex.; Courier-Freeman, Inc., Potsdam, N. Y.; Palmiter Press, Watertown, N. Y.; Magnolia Paper Co., Houston, Tex.; Manlius Publishing Corp., Fayetteville, N. Y.; Vanco Printers, Inc., Freeport, Ill.; Vickay Press, Inc., Tuckahoe, N. Y.; and Brunswick Radio Corp., Gloversville, N. Y.

Wood Stereotype Equipment

Wood Newspaper Machinery Corp. has reported a number of installations of its stereotype equipment. The Tokyo (Japan) *Mainichi* has purchased a Wood Automatic Autoplate, Tensionplate Automiller and a Heavy Duty Autoshaver. This installation is part of an expansion program recently put into effect by this Japanese newspaper.

Standard Pony Autoplates with auxiliary equipment have been installed by Wood at the Massillon (O.) *Independent*, Newburgh (N. Y.) *News*, Catholic Press Society, Inc., Philadelphia, and Chronicle Publishing Co., Inc., Marion, Ind. The Orlando (Fla.) *Sentinel-Star* has installed a Heavy Duty Pony Autoplate equipped with pump and pneumatic device. Wood also reports that a factory rebuilt Automatic Autoplate with vacuum box has been installed by the Cleveland (O.) *Press*.

A South American newspaper, *Diario De Sao Paulo*, Brazil, with a circulation of 100,000, has installed two Heavy Duty Autoplates with auxiliary equipment, two Tensionplate Automillers and a Wood 6 T. Electric Furnace with auxiliary equipment. Another Sao Paulo newspaper, *Imprensa Oficial*, has installed two Heavy Duty Autoplates equipped with vacuum and metal pumps, a Tensionplate Automiller and a 6 T. Electric Furnace with auxiliary equipment.

Registerscopes were recently installed in the following plants by Taylor Machine Co.: F. A. Owens Publishing Co., Dansville, N. Y.; The Process Corp., Chicago; Federal Carton Co., Hoboken, N. J.; Gebhardt Folding Box Co., Dayton, O.; A. Colish, Inc., New York, N. Y.; Merck & Co., Rahway, N. J.; C. O. Owen & Co., Maywood, Ill.; Dowd Press, Charlotte, N. C.; J. C. Dillon Co., Inc., New York, N. Y.; Webb Publishing Co., St. Paul, Minn., and Universal Folding Box Co., Inc., Hoboken, N. J.

- *EXPERT TECHNICAL GUIDANCE*
- *RELIABLE RESEARCH FACILITIES*
- *CREATIVE INK PRODUCTION*

Service, to S & V, means more than simply supplying you with better inks for better printing results. It means a constant and active interest in all your printing problems. Our research facilities are continually devoted to the task of improving our products and affording you a more dependable, more economical press operation. *Any* time you have need of expert technical guidance, or require inks of the highest calibre, call on S & V. Over 35 branches, from coast to coast, are always "at your service!"

Sinclair and Valentine Co.

Main Office and Factory: 611 West 129th St., New York 27, N. Y.

OVER 35 BRANCH OFFICES

SV

SERVICE FROM COAST TO COAST

Rosback Installations

Installations of Rosback bindery equipment reported by the F. P. Rosback Co. are as follows: *Auto-Stitchers* — Goodhart Printing Co., Washington, D. C. (installed by American Type Founders); The Largo (Fla.) *Sentinel*, (installed by E. C. Palmer & Co., Ltd.); Pepper Printing Co., Gainesville, Fla. (installed by E. C. Palmer & Co., Ltd.); Delaney Printing Co., Hammond, Ind. (installed by Economy Printers Products Co.); Desplaines Publishing Co., Des Plaines, Ill. (installed by Western Newspaper Union); Letter Shop Press, Danville, Ill. (installed by Western Newspaper Union); North Iowa Directory Service, Algona, Ia. (installed by Western Newspaper Union); Moore & Co., Baltimore, Md. (installed by American Type Founders); U. S. Dept. of Agriculture, Baltimore, Md. (installed by George R. Keller); The Cricket Press, Manchester, Mass. (installed by American Type Founders); J. Gateman Co., Boston (installed by Samuel Stephens & Wickersham Quoin Co.); Hamilton Newell, Amherst, Mass. (installed by Merit Printers Supply Co.); Free Press Co., Mankato, Minn. (installed by Printers Supply Co.); Electric City Printing Co., Great Falls, Mont. (installed by A. E. Heinson); Capital Offset Co., Concord, N. H. (installed by American Type Founders); Enoch Bookbinding Co., New York, N. Y. (installed by E. P. Lawson Co.); Rapid Ruling Co., New York, N. Y. (installed by E. P. Lawson Co.); Clinton (N. Y.) *Courier* (installed by Alan Dietch); Esterbrook Printing Co., Syracuse, N. Y. (installed by E. P. Lawson Co.); Artcraft Printers, Buffalo, N. Y. (installed by Buffalo Printers Supply Co.); Eaps, Inc., Mt. Vernon, N. Y. (installed by Zimmer Printers Supply Co.); Webb Printing Co., Burlington, N. C. (installed by American Type Founders); Akron Printing Co., Akron, O. (installed by American Type Founders); Oklahoma Bindery, Oklahoma City, Okla. (installed by Western Newspaper Union); Shelton-Turnbull-Fuller Co., Eugene, Ore. (installed by George A. Fetsch); Ward Printing Co., Washington, Pa. (installed by American Type Founders); Commercial Printing, Lancaster, Pa. (installed by R. W. Hartnett Co.); Wagaman Bros., Letitz, Pa. (installed by American Type Founders); Eagle Printing Co., Sharon, Pa. (installed by American Type Founders); Allentown High School, Allentown, Pa. (installed by American Type Founders); The Voice of Healing, Dallas, Tex. (installed by American Type Founders); Schneider Printing Co., San Antonio, Tex. (installed by E. C. Palmer Co.); Heinzen Printing Co., Marshfield, Wis. (installed by Milwaukee Printer Roller Co.); Van Roog Printing Co., Appleton, Wis. (installed by Milwaukee Printer Roller Co.).

Twenty-two Special Perforators: Lions International, Chicago (installed by E. G. Ryan & Co.); Rock Island Senior High School, Rock Island, Ill. (installed by Western Newspaper Union); Topham Printing Co., Saginaw, Mich. (installed by Kalamazoo Printers Machinery Co.); Michigan Dept. of Conservation, Lansing, Mich. (installed by Kalamazoo Printers Machinery Co.); Glen C. Shively, St. Joseph, Mich. (installed by Graphic Arts Equipment Co.); Missouri Printing & Stationery Co., Cape Girardeau, Mo. (installed by Western Newspaper Union); Bindery Craftsmen, Inc., New York, N. Y. (installed by Irving Nissenbaum, Inc.); Westchester Bank & Trust Co., New Rochelle, N. Y. (installed by Addressograph-Multigraph Corp.); Medlin Printing Co., Smithfield, N. C. (installed by American Type Founders); Hospital Care Assoc., Durham, N. C. (installed by Addressograph-Multigraph Corp.); Compton Printing Co., Portsmouth, O. (installed by Western Newspaper Union); Boys Industrial School, Lancaster, O. (installed by Western Newspaper Union); M & R Dietic Laboratories, Columbus, O. (installed by Addressograph-Multigraph Corp.); Long Bell Lumber Co., Enid, Okla. (installed by Western Newspaper Union); U. S. Atomic Energy Commission, Oak Ridge, Tenn. (installed by Gane Bros. & Lane, Inc.); Caldwell Printing Co., Houston, Tex. (installed by E. C. Palmer Co.); Lufkin Printing Co., Lufkin, Tex. (installed by E. C. Palmer Co.); Taylor Publishing Co., Dallas, Tex. (installed by Western Newspaper Union); The Radio Post, Fredericksburg, Tex. (installed by Texas Type Foundry); Joe Grimes, Plattsville, Wis. (installed by Addressograph-Multigraph Corp.)

30 in. Pony Vari-Speed Rotary Perforators: Robins Air Force Base, Macon, Ga. (installed by Harris-Seybold Co.); Newark Bindery, Newark, N. J. (installed by Gane Bros. & Co. of New York, Inc.); Freeman Printers, Lumberton, N. C. (installed by Southeastern Printers Supply Co.); The Philadelphia National Bank, Philadelphia (installed by American Type Founders). *36 in. Slot Rotary Perforator:* Charles Brunning Co., Inc., Teterboro, N. J. (installed by Harris-Seybold Co.) *Super XX Perforator:* General Manifold & Printing Co., Franklin, Pa. installed by E. P. Lawson Co.). *Modern Printing Punch:* Duquesne *Times* Publishing Co., Duquesne, Pa. (installed by Harry Guckert Co.)

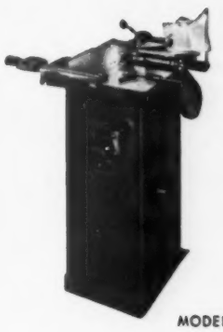
A TrimOsaw for Every Plant

MODEL G-4

Glider TRIMOSAW

The Hammond Glider TrimOsaw is the top of the line of three Hammond TrimOsaws and stands apart from everything in the field. There is no other saw that compares with its precision, smoothness and speed.

THE SAW WITH THE BALL BEARING TABLE



MODEL M-9

Mercury TRIMOSAW

The Hammond Mercury TrimOsaw may be compared with the "best" or "most expensive" saws on the market. For the medium size plant the Mercury is the ideal machine—it will handle every kind of slug, rule and plate work smoothly and accurately.

THE SAW WITH THE BALL BEARING GAUGE

Ben Franklin TRIMOSAW

The Hammond Ben Franklin TrimOsaw compares with the lowest priced good saws. Designed as the ideal machine to fit the production requirements and pocketbook of the smaller plants.

FINEST SAW IN THE LOW PRICE FIELD

MODEL BF-10

Hammond Machinery Builders INC

1604 DOUGLAS AVENUE • KALAMAZOO, MICHIGAN

Equipment & Supplies

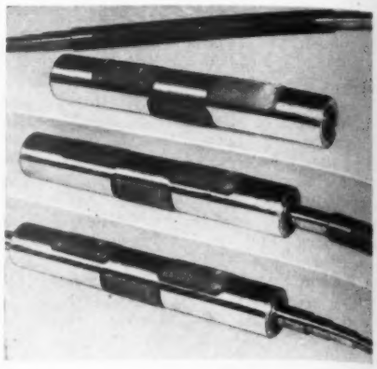
(Continued from Page 32)

the other traditional. Four casual faces are also available which, according to the company, reflects the trend to a bold style of condensed Gothic type specifically made for impact. Filmotype's signs and symbols font includes figures, arrows, checks, stars, hands, telephones, circles and other frequently reproduced symbols. To obtain information and illustrations of these fonts, please mention PEE No. 306 in your request.

Read *Printing Equipment Engineer's* Want Ad Section found on Page 83.

Rubber Plate Cylinder Assembly

Mosstype Roller Co. has developed a rubber plate cylinder assembly consisting of a lightweight magnesium sleeve and special steel mandrel. The cylinder, which is called D-Mount, is assembled by the printer by applying heat to the ends of the magnesium sleeve by means of special electric expanders. This action widens the bore so the steel mandrel may be inserted into it and properly positioned. After a brief cooling period the bore shrinks to what the sponsor describes as a grip-fit on the mandrel and the cylinder is ready for the press. To disassemble, the sleeve ends are again heated so that the mandrel may be withdrawn from the sleeve. Sponsor states that such an assembly permits the sleeves to be stored away with plates still mounted in position for future reruns. It is claimed the D-Mounts retain original concentricity and rigidity despite



frequent and repeated assembly and disassembly. The mandrel and sleeve with mounted rubber plates are shown in the accompanying illustration both separate and in assembled positions. Illustrated literature, which is available, may be obtained by mentioning PEE No. 303 in your request.

Spot Gumming Machine for Carbon Snapout Forms

The Thum-O-Snap Bindery Supply Co. announces the HOldspot, a foot operated spot gumming machine for use in the manufacture of carbon snap-out forms

and for other spot gumming operations.

This unit is supplied with plywood work top, folding side work tables and black crackle finished steel stand. The machine, in operation, takes up 30 in. by 66 in. floor space to permit moving. The work table may be tilted forward to assure position of carbon and sheets. Sliding guides allow sheets up to 23 in. wide to be handled.

Up to 1800 sheets an hour and in some cases better than 2000 sheets per hr. can be processed. As a single operating unit or as a supplement to existing equipment, the HOldspot will fit into any bindery spot gumming operation.

When asking for further information, please mention PEE No. 308.

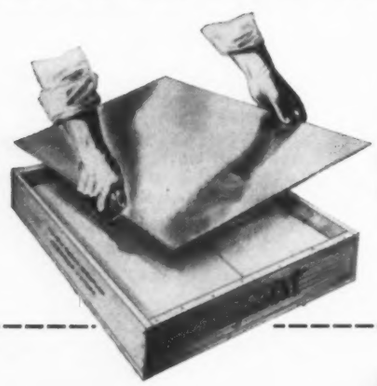
Door Operating Device

A device for automatic or semi-automatic opening and closing of doors, known as the Economatic, has been reported by the National Pneumatic Co., Inc., and Holtzer-Cabot Divs. Sponsors claim installation of the device in plants

Imperial

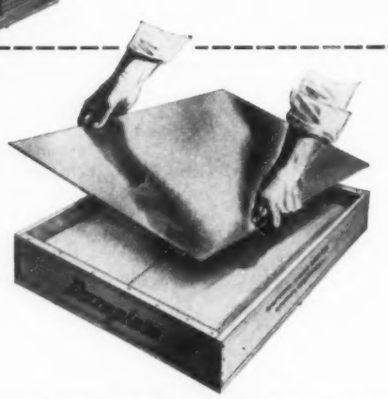
engraving zincs

consistently good



IMPERIAL REGULAR
(Green Redibak)

Meets the requirements for all usual applications.



IMPERIAL DURAPLATE
(Orange Redibak)

Alloyed for extra tough duty. Unusually resistant to buckling.

IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

CHICAGO 50 • NEW YORK 7 • PHILADELPHIA 34

IN CANADA: LATIMER, LIMITED, TORONTO 2-B

P.S.—Imperial *Regular* Zinc and Imperial Duraplate are *both* always available. No premium price for Duraplate. Order either or both to meet your requirements.

will effect savings in materials handling, heating, air conditioning and humidity

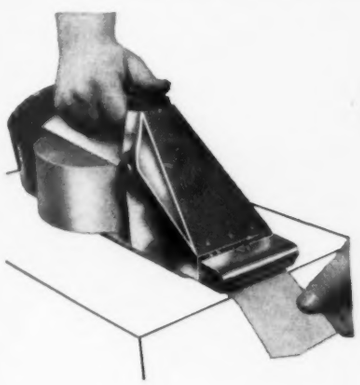
control, and improve fire door protection and sanitation control.

The Economatic may be activated automatically by foot treadle or photoelectric controls, or semi-automatically by pushbutton, foot, panel or cord switches. The semi-automatic controls are available in either electric or pneumatic models. Safety features include manual operation in event of power failure and controls which eliminate the risk of electrical connections in hazardous areas.

Other features of the device are control of the door at all times which cushions both the opening and closing action and prevents slamming, and a self-lubricating engine. It is furnished pre-piped, pre-wired and mounted on a base plate for installation. Additional details may be secured by mentioning PEE No. 282 in your request.

Tape Dispenser and Sealer

The Roll-On-Sealer may be used in printing plant shipping departments for applying and sealing gummed tape, in one operation, on cartons, boxes, rolls,



bundles, etc., according to Pack-Rite Machines. It will accommodate both kraft and reinforced tape and is equipped with a steel razor blade for cutting kraft tape and a serrated blade for cutting reinforced tape.

In operation, the Roll-On moistens, applies, measures and cuts off tape as it is pulled over the area where a seal is desired. It is designed for operation in either horizontal or vertical position, over flat joints or at edges of the package. The portable dispenser weighs 2½ lbs. It will accommodate any width of tape up to 3 in. Adjustment from one width to another is accomplished by turning a knurled knob which centers the tape on the moistening and pressure rolls. The sealer will hold a 600 ft. roll of tape.

When sealing, the tape feeds direct from the roll and is moistened as it passes over the sponge roll. As the tape leaves the sealer, a soft rubber roll applies pressure to make a firm seal. Pressure from this roll removes air bubbles. More details may be obtained by mentioning PEE No. 311 in your request.

South Bend Lathe Catalog

Illustrations and specifications on machine tool attachments and accessories are included in a 40 page catalog issued by South Bend Lathe Works. Subject matter in the catalog covers attachments and accessories for South Bend toolroom and engine lathes, turret lathes, drill presses, 7 in. bench shaper and 8 in. or 10 in. pedestal grinders. Please mention PEE No. 277 when asking for your copy.

Stripping and Opaquing Table

A stripping and opaquing table constructed with a double-wall glass on the top with lighting from beneath by fluorescent lamps has been developed by Colwell Litho Products, Inc. To be known as the Colight Table, it is claimed the Italian Opal glass provides 100% light diffusion. The double glass top is designed with an air space between the diffusing glass and working surface. Sponsor claims this feature provides a cool

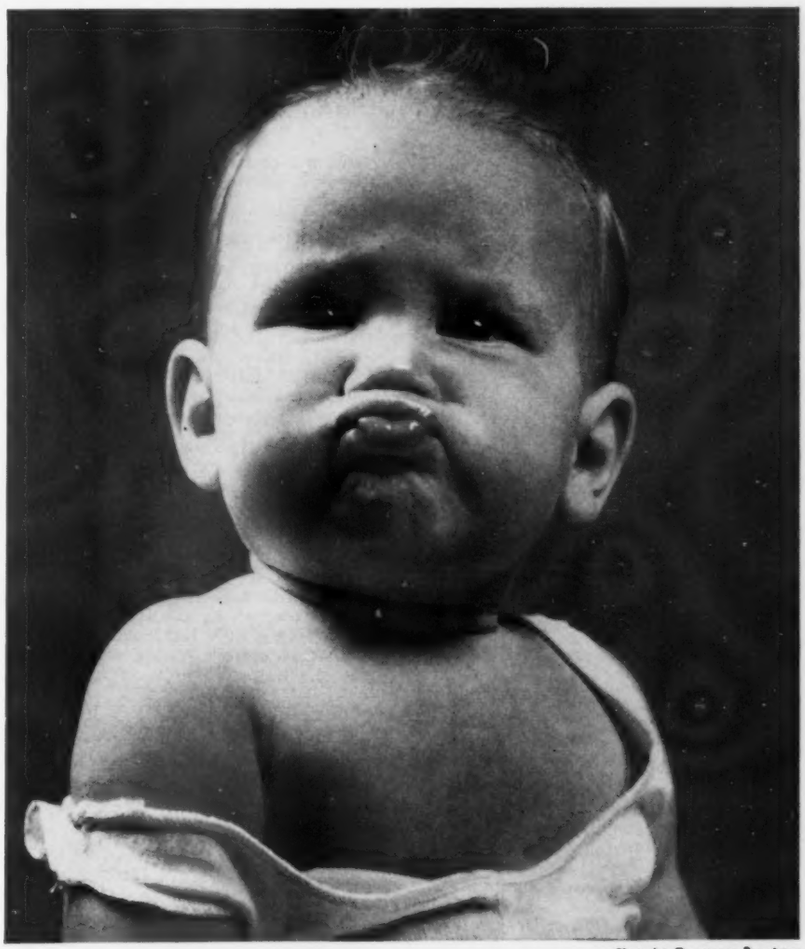


Photo by Constance Bannister

"Phooey! My pop says BURGESS MATS *are by far the best."*

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

Freeport, Illinois

A Laboratory Product
BURGESS
Chrome
MATS

working surface which prevents negatives from curling and permits the operator to work in comfort. If you desire further information, please mention PEE No. 314 in your request.

Metron Hand Tachometer

Metron Instrument Co. has published a four page bulletin on the Metron 3 in 1 Hand Tachometer, an instrument for measuring the speeds of rotating shafts and surface speeds of belts and/or pulleys. Three separate ranges are incorporated in the instrument with only one range appearing at a time. Ranges are selected by flipping a switch on the handle of the tachometer. Hand tachometer accessories are also shown in the bulletin. Please mention PEE No. 284 in your request for a copy.

Straight-Line Image Reverser

The Consolidated Straight-Line Image Reverser, reported by Consolidated Photo Engravers & Lithographers Equipment Co., is an accessory for a camera designed for photographic reversal in direct color process work. It is for use by photo-engravers, offset and gravure platemakers.

The Consolidated Reversing System utilizes a flat surface mirror which is said to have tolerances of 0.00000025 in. flatness to pick up the first image from the copy, transmit the image at 90 deg. to a roof surface mirror which is ground to optical flatness, assembly of two mir-

rors at 90 deg. of each other mounted parallel to the main surface mirror, transmitting the image then through the lens. It is claimed the system of surface mirror image reflections assures minimum loss of exposure time and fine detail.

The roof mirror assembly, weighing 6 lbs., may be removed for photographing directly through the lens. The assembly is mounted on a locked sleeve to assure accuracy and exact positioning. A black shade covers the front surface mirror and removal of roof mirror is said to take approx. 2 sec.

Another accessory furnished with the system is a flat surface mirror which provides the exact size and image without reversal. This is designed so that on jobs where reversal is not required but the same size as the reversal is desired, both straight and reverse images may be made with camera adjustments. A Universal Percentage Lens Diaphragm control may be fitted to the lens and all

(*Continued on Page 64*)

Phototypesetting Makes Newspaper Debut at St. Petersburg (Fla.) *Times*— With the installation of an Intertype Fotosetter photographic line composing machine last February, the St. Petersburg (Fla.) *Times* became the first newspaper to incorporate photographic typesetting in its regular daily production routine. The Fotosetter machine is used by the *Times* for production of type used in daily ads. During preliminary planning for the installation, General Mgr. Alvah Chapman, jr. (left in picture), said: "Composition prepared on the Fotosetter combined with an artist's skill on the drawing board will enable us to prepare attractive ads. We're looking forward to improved presentation of ad copy through better layout work and typography."

The machine was integrated in the daily's operations as part of the ADE (art-dispatch-engraving) department under a separate operating force. The ADE department functions as the central co-ordinating unit for all ad production.

Others in picture, center, Cal Thomas, Mgr. ADE Dept., and at right is Operator Richard Rutan.

Layout, copy and artwork for all jobs are analyzed by the ADE department as the work enters the plant. Each ad is graded according to complexity. Ads that can be produced economically by conventional procedures are marked up for slug composition and routed to the composing room along with cuts of illustrations.

Complex ads in which layouts specify difficult makeup, such as angled lines or other unconventional type treatments, are earmarked for Fotosetter composition, including complicated catalog ads for department stores.. Type for these ads is set on the Fotosetter machine in the form of photographic paper positives.

These type proofs are pasted up with illustrations and other elements in a layout ready for darkroom cameras. Composite ad plates are made from the resulting negative and are furnished to Mechanical Supt. Don Shortell to be incorporated in page forms for stereotyping. Type can also be set directly on film, ready for engraving, without secondary camera operations.

At present, the *Times* is reorganizing and streamlining its phototypesetting department for straight line production. During this phase of operation, the department will work two shifts daily seven days a week with maximum effort on production volume. In conjunction with the cold type operation, the *Times* has installed two Dow-ANPA fast etch machines and is working on techniques for etching combination plates. Within the next few months the *Times* expects to make a report to the industry.

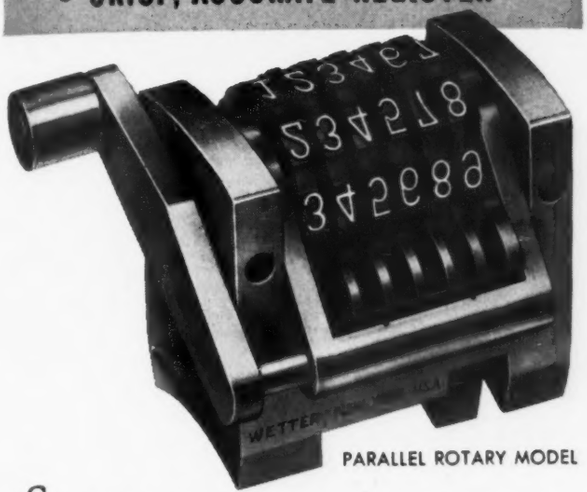
Craftsmen Honor Intl. Veep—Craftsmen, principally from Cleveland, recently staged a testimonial dinner in that city in honor of George Wise, newly elected Second Vice Pres. of the Intl. Assoc. of Printing House Craftsmen. Among the 75 in attendance were Craftsmen from Pittsburgh and Detroit. Shown above at the affair, from left to right, are: W. Donn Barber, President, Cleveland Craftsmen's Club; Mrs. Wise, Wise, and Mrs. Barber. Wise is Partner-Supt., Dugan-Millis, Inc., and Barber is President, Adcraft Printing Co., both of Cleveland.

You can't gamble with numbers...

...They make or break a perfect printing job!

ONLY **WETTER** NUMBERING MACHINES GIVE YOU CONSISTENTLY

- PERFECT NUMBER SEQUENCE
- CLEAN, SHARP IMPRESSIONS
- CRISP, ACCURATE REGISTER



PARALLEL ROTARY MODEL

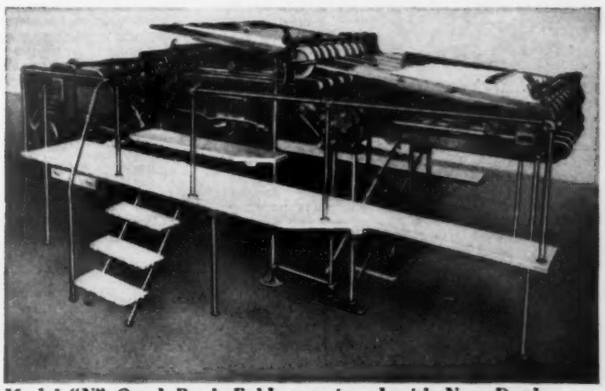
Specially designed for today's rotary presses, this sturdy cam-actuated machine accurately prints numbers in a line parallel to the axis of the impression cylinder. Features: rugged number wheels with heavy-duty ratchets in a one-piece, curved-base steel-frame; custom-curved number faces conform to cylinder curvature; easy mounting with Wetter Quik-Lok clamp base saves set-up time, eliminates mounting-ring adapters. Available in either Roman or Gothic style figures.

Number *right* and number *better* . .
. . *always* number with a WETTER!

Write for free descriptive folder today.

WETTER NUMBERING MACHINE CO.
ATLANTIC AVENUE & LOGAN STREET · BROOKLYN 8, N.Y.
ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

Adapting your Dexter Model "N" Quad Book Folder to run 128 pages



Model "N" Quad Book Folder equipped with New Duplex Attachment. Rear view showing two Cross Feeders.

Your Dexter Model "N" Quad, now set up to deliver four 16 page signatures, or two 32 page signatures made up of inserted 16's, at each cycle, can now be converted to practically double its present capacity.

With the New Duplex Attachment, it will deliver four *32* page closed head signatures, perforated head and foot — or, on certain lightweight stocks, two *64* page signatures (inserted *32*'s) — instead of its present two 32's.

To your present "N" Quad are added another cross continuous feeder and an extra first fold level. The *two* cross feeders in tandem arrangement feed the sheets, each to its separate conveyor, in timed relationship.

Accurate register is assured by slow-down provided at top and bottom first fold level to eliminate buckling at the front gauge. Independent register is provided for each sheet at front and sides.

From this point, the standard "N" Quad mechanism takes over and the folded 32 page product is eventually delivered, perforated head and foot, into separate packer boxes.

Your Model "N" Quad can still be operated as a standard single quad delivering the usual four 16 page signatures or two 32 page signatures (inserted 16's) at each operation.

The Duplex Attachment will not change the maximum and minimum sheet sizes now handled by your Model "N", but it *will* effect savings in folding costs and still further economies in subsequent gathering and sewing operations.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Patents

For The GRAPHIC ARTS

Covering patents issued July 6, 13, 20 and 27.

COMPOSING ROOM:

2,682,814. PHOTOCOMPOSING APPARATUS comprises a keyboard and a register for storing information corresponding to selected characters and spaces in a line, and for numerically representing width values; a photographic unit actuated by the register projects selected characters upon a sheet; a variable-motion device operable by the register causes relative displacement of character projections on the sheet; a zone switch controls operation of the variable-motion device and has a number of terminals representing increment sides. The switch is supplied with two levels, a contact on one level for introducing increments of space between interwords, and a contact on the other level for introducing increments between characters. Invented by Rene A. Higonnet and Louis M. Moyroud, Cambridge, Mass. Assigned to Graphic Arts Research Foundation, Inc., Cambridge, Mass. Application Jan. 12, 1949; in France Jan. 14, 1948. 26 Claims.

2,683,525. TYPOGRAPHICAL CASTING MACHINE includes a pair of line clamping jaws which are connectable with a rod for quadding. A control is operable twice during each machine cycle and is effective in first operation to close the jaws and then release them and in the second operation to apply additional pressure to the rod and then release it. An automatic rod clamp is operable during first operation of the control and before release of the rod and until the beginning of the second operation of the control before second release of the rod and until the composed line has been lifted partly from between clamping jaws. By preventing jaws from appreciably receding after the first operation of justification device, loss of pressure and formation of imperfect type bars are obviated. Invented by Victor M. Corrado, Williston Park, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application June 14, 1952. 11 Claims.

FEEDING, FOLDING, DELIVERY:

2,684,242. DELIVERY LOAD CHANGER is supplied with an auxiliary arrangement for temporarily taking and holding sheets delivered from a printing or other sheet handling machine while the main pile support is withdrawn for unloading, and a new main pile support is mounted in the machine and adjusted to sheet taking position. The auxiliary support is then withdrawn, and the sheets collected by the support are dropped onto the new main support. Invented by Morton Schmidt, Redwood City, Calif., and Leonard F. Raynaud, San Francisco, Calif. Assigned to Schmidt Lithograph Co., San Francisco, Calif. Application Apr. 14, 1950. 6 Claims.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

MISCELLANEOUS:

2,683,246. ELECTRIC MULTIPLE MOTOR CONTROL SYSTEM FOR MULTIUNIT PRINTING PRESS DRIVES is of the type in which a single condition-responsive controller determines and regulates the coordinated operations of a group of parallel connected motors and in which the number of motors thus jointly controlled can be selectively varied in accordance with the number of printing press units that are to operate with a folder unit of a newspaper or magazine printing press. The current-carrying capacity of such a controller is made adjustable in accordance with selection of the jointly controlled motors so that control performance relative to each operating motor remains unaffected by changes in number or power requirements of selected motors. Invented by Milton L. Priban, Clarendon Hills, Ill. Assigned to Cline Electric Mfg. Co., Chicago, Ill. Application Oct. 6, 1951. 35 Claims.

PRINTING INKS:

2,684,909. ZEIN INK VEHICLE, for use in high speed printing presses, consists of 15-25% zein, 30-40% ethylene glycol, 40-50% ethyl ether of tripropylene glycol, and less than 10% water. Invented by Robert M. Leekley and Morrison N. Stiles, Westport, Conn. Assigned to Time, Incorporated, New York, N. Y. Application Sept. 11, 1951. 11 Claims.

PLATEMAKING:

2,683,340. BLASTING APPARATUS AND CLAMPING MECHANISM THEREFOR is useful in graining a metal surface for lithographic printing purposes. A cylindrical drum is rotatably mounted on an axially positioned shaft, at least one clamp bar being adjustably held in axially-directed position against the drum exterior. An expandible tube is held by clamp bar close to the external surface of the drum, the bar having a backing wing supporting the tube on the side opposite the drum surface. A fluid supply is connected to the tube and includes a control for causing expansion of the tube so as to grip a part of a sheet inserted between it and the carrier. As drum is rotated, the blasting sand is projected against the sheets fastened to the drum. A feature of the structure is that clamping bar and tube combination is not adversely affected by the blasting operations and presents no parts that can be jammed. Invented by Wiltie I. Gladfelter, Waynesboro, Pa., and Ralph R. Garver, Hagerstown, Md. Assigned to Pangborn Corporation, Hagerstown, Md. Application Apr. 10, 1952. 6 Claims.

2,684,892. FERRIC CHLORIDE ETCHING SOLUTIONS may be used to produce printing plates and rolls such as those used for photoengraving and rotogravure processes. The composition comprises a water solution of ferric chloride having a specific gravity of 35-48 deg. Baumé, 20-50 grams per liter of a substance selected from the group consisting of ammonium persulfate, alkali metal persulfates, and a mixture of ammonium and alkali metal persulfates, and 2-10% by volume of hydrochloric acid, concentrated nitric acid, or a mixture of the two. Invented by Theodore A. Saulnier, Lancaster, Pa. Assigned to Radio Corporation of America, New York, N. Y. Application January 14, 1953. 8 Claims.

2,684,901. IMAGE TRANSFER DEVICE is for use in the electrostatic transfer of powder images from electrophotographic plates and from other electrostatic image plates. The device includes a mechanism for advancing an image plate under an ion source and an arrangement to feed a transfer sheet to the plate surface coincident with or prior to passage under the ion source. An arrangement to obtain registry of the image on the transfer sheet is included. Invented by Edward R. Sabel and Clyde R. Mayo, Rochester, N. Y. Assigned to The Haloid Co., Rochester, N. Y. Application Dec. 19, 1950. 6 Claims.

2,684,902. IMAGE TRANSFER MECHANISM FOR ELECTROSTATICALLY ADHERING IMAGES provides for feeding transfer sheets against surfaces carrying electrostatically deposited powder images preparatory to electrostatic transfer of such images to the sheets. Such surfaces may comprise electrophotographic or xerographic plate surfaces, xeroprinting plate surfaces, and the like. Invented by Clyde R. Mayo and William G. Lewis, Rochee-

Gone forever are the ink-dripping, poor-proofing days of yesterday . . . thanks to Challenge's famous *"Cylinder Press"* action! This proven principle of design - includes a reciprocating bed on anti-friction bearings . . . cylinder grippers, micrometer side guide and a foot operated trip. Write today for full details about Challenge Series-K Proof Presses. Made in three styles - **KP** with automatic power inker . . . **KA** with automatic inker . . . and **K** with ink plate. Each is built in two sizes, 15¼x26 ins. or 20½x26 ins.

766

CHALLENGE®
SERIES K
PROOF PRESSES

Challenge
TRADE-MARK ®

THE CHALLENGE MACHINERY CO.
Office, Factories and Show Room
GRAND HAVEN, MICHIGAN
DEALERS IN ALL PRINCIPAL CITIES

Challenge Owns the Printing Equipment Manufacturing Rights of *Morgans & Wilcox* Manufacturing Company

ter, N. Y. Assigned to The Haloid Co., Rochester, N. Y. Application Nov. 23, 1951. 2 Claims.

2,684,922. METHOD OF MAKING PLANOGRAPHIC PRINTING SHEETS uses a selected light gauge metal foil such as zinc, aluminum, copper, etc., which is surfaced by means of a rapidly rotating brush having filaments of special form which have a primary hammer-displacing action and a very minor metal removing action. By such process, minute oriented depressions are formed regularly spaced across the surface of the metal. The depressions are greater in dimension in one direction. The surface of the plate is subjected to an aqueous solution of an alkali metal phosphate to effect the formation of a thin layer of metal phosphate on the plate. Invented by Othello Brooks Pollock, Calvin L. Wilson, and Milton H. Pintell, Richmond, Va. Assigned to Reynolds Metals Co., Richmond, Va. Application May 6, 1950. 5 Claims.

2,684,939. APPARATUS FOR PLATING CHROMIUM, useful in the manufacture of lithographic printing plates wherein chromium is applied to portions of plates which are to be water receptive and ink repellent, comprises a rigid non-conductive tip containing a hollow reservoir for plating solution and has a capillary opening connecting with reservoir for gradually releasing the solution by the movement of the tip against a surface to be plated. An elongated anode within the tip has an end adjacent the opening. Extremity of the tip has slots intersecting and extending away from opening to vent gases formed by electrolysis. Invented by Charles Frederick Geese, Old Greenwich, Conn. Assigned to Time, Incorporated, New York, N. Y. Application Dec. 17, 1949. 3 Claims.

PRINTING PRESSES:

2,683,195. PAPER BREAK CONTROL DEVICE, for use on a printing press, consists of a control switch having an operating mechanism supported at opposite ends on the side frames of the press and comprising a rotatable shaft carrying the operator for the switch. Shaft is rotatable in one direction to one extreme position to operate switch. An assembly comprising an anti-friction bearing has an inner race non-rotatably supported on the shaft and an outer race. A web engaging lever is supported on the outer race and may be biased into engagement with a traveling web. The lever is movable to a given extreme position on breakage of the web and is connected to the igner and outer races to effect rotation of the shaft to said one extreme position. Invented by Frederic E. Howdle, Milwaukee, Wis., and Theodore B. Jochem, Wauwatosa, Wis. Assigned to Cutler-Hammer, Inc., Milwaukee, Wis. Application Oct. 14, 1950. 13 Claims.

2,683,409. PRINTING AND NUMBERING MACHINE AND INTERRUPTER THEREFOR is for use in conjunction with a printing press to consecutively number and to perforate sheets of paper or individual items printed thereon. It incorporates a time-delay mechanism which accomplishes a no-sheet-no-number function. The time-delay mechanism operates automatically in response to a condition at a remote point to inactivate the numbering elements at precisely the right time and as long as the condition exists and to return the numbering element to an operative state when the condition ceases to exist. Invented by Orville Dutro, La Canada, Calif., and Olin E. Freedman, Chicago, Ill. Assigned to The McBee Co., Athens, O. Application Apr. 3, 1950. 12 Claims.

2,683,411. BLANKET CYLINDER MOVING MECHANISM FOR OFFSET LITHOGRAPHIC PRINTING MACHINES is of the type which includes a form cylinder, a blanket cylinder and impression cylinder and in which the blanket cylinder is rotatably mounted on a shaft having eccentric ends adapted to be rotated relative to the machine frame on which they are mounted to vary the position of the blanket cylinder and move it into contact with the impression cylinder. The improvement of this patent provides a mechanism for detachably coupling the link to the blanket cylinder so that, as the latter rotates, the link is automatically rotated to make initial engagement with an abutment provided on the blanket cylinder which serves to determine the position of the cylinder relative to the form and impression cylinders. Invented by Carl Gustave King, Kenton, England. Assigned to Rotaprint Limited, London, England. Application Nov. 4, 1952; in Great Britain Nov. 9, 1951. 11 Claims.

2,683,939. ELECTRIC DRYING AND EXHAUST UNIT is adapted for the quick drying of paper or ink on continuously moving webs. An arrangement is provided for confining the hot air to the surface of the sheet to be dried. A suction intake manifold is arranged in spaced, parallel relation to a hot air blower so that the air and vapors from the sheet will be withdrawn from the surface of the traveling sheet. The hot air blower and suction intake may be mounted as a single unit on a printing press. Invented by Rudolph L. Meltzer, Henry E. Meltzer, and William D. Warner, Racine, Wis. Assigned to Master Appliance Mfg. Co., Racine, Wis. Application May 12, 1952. 1 Claim.

2,684,028. CYLINDER HOUSING MEANS FOR INTAGLIO PRINTING MACHINE includes a shaft rotatably supporting a printing cylinder and extending through the housing, and an arrangement to prevent escape of ink from the housing, which includes a V-shaped scraper supported intermediate its ends in a fixed position under the shaft to minimize passage of ink along the shaft toward a wall of the housing. The scraper has a scraping edge which engages the surface of the shaft and extends downwardly away from the housing wall. Invented by Norman Peter Toft, London, England. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application Nov. 10, 1948. 7 Claims.

2,684,029. PLATE CYLINDER FOR PRINTING PRESSES provides a device for clamping to the cylinder the intersecting plate ends having a series of interdigitated fingers. The cylinder has a narrow longitudinal slot along its periphery opening to an internal recess closely adjacent the periphery. Segmental shells supported on a cylindrical bearing in the recess have at their adjacent ends an arrangement for engaging the plate fingers. Cylinders laterally disposed in the recess have teeth which cooperate with those on the shells, and are adjustably rotated from exterior of the press cylinder. Invented by Kenneth E. Friess, Dorchester, Mass., and Charles A. Meisel, Milton, Mass. Assigned to Meisel Press Mfg. Co., Boston, Mass. Application May 19, 1953. 5 Claims.

2,684,117. SLITTER FOR PRINTING PRESSES, for use in connection with a cylinder of a printing press, comprises a bank removably fixed on the cylinder, a fixed rigid bracket, a slitter to slit paper passed between the band and the slitter, and a rod slidably supported by bracket for adjustably positioning the slitter toward or away from the cylinder. A nut is threadably mounted on rod on the side of the bracket remote from the cylinder. A gauge wheel concentric with the nut is attached to same. The angle of rotation of the gauge wheel is limited so that the rod may be advanced a distance less than the thickness of the band. Gauge wheel is angularly adjustable with respect to the nut and the nut and wheel may be locked together in a selected angular relation. Invented by James R. Wood, Cleveland, O. Assigned to Harris-Seybold Co., Cleveland, O. Application Sept. 8, 1951. 7 Claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC. Munsey Bldg., Washington, D.C.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

TINGULOK (PATENT PENDING) **"the most economical and the simplest system of blanketing rotary presses"**

The really "hot news off the press" is about TINGULOK:

1. Hands and fingers SAFE FROM INJURY in putting on blankets!
2. Blankets put on in less time!
3. Blankets more securely attached to impression cylinders!
4. Blankets do not shift or WALK from side to side.

TO INSTALL: TINGULOK uses two reels in blanket cylinder. Can also be adapted to one reel cylinders. The old canvas flaps, if any, are removed. The TINGULOK Lead Flap is applied to the lead or pin end roll. The TINGULOK Tail Flap is put on the other reel. It is not necessary to take reels out of the press to install TINGULOK Flaps.

TO BLANKET: Simply run clipper lace wire through elements on TINGULOK Lead Flap and TINGULOK Blankets and Drawsheet. Reel in until reinforcement on Drawsheet is below opening. Wrap blankets around cylinder and run wire through lacing on tail of Drawsheet. Reel in!

It's as simple as that... no pain, no strain, and no blankety blank in blanketing! TINGULOK Flaps and Blankets are made up complete... no preparation of Blankets and Drawsheets necessary!

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723 E. Washington Blvd., Los Angeles, Cal. ..... PRospect 6023

Equipment & Supplies

(Continued from Page 60)

operations of the optics are the same as using the lens without a reversing system.

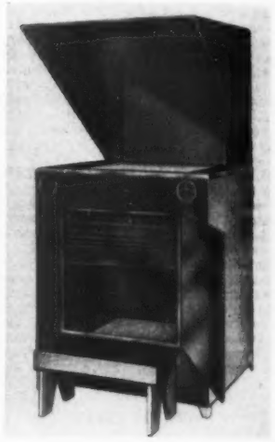
The Reversing System may be installed on present 1800 Consolidated cameras, and special adaptors are available for its utilization on other cameras. The image reverser is available in two models: Model S for lenses from 14 in. to 24 in., and Model L for lenses from 24 in. to 35 in. More information may be secured by mentioning PEE No. 301 in your request.

Projection and Contact Printing Camera

Enlargement or reduction of opaque, transparent and three-dimensional copy is possible on the Camera Lucikon, a projection and contact printing camera developed by the M. P. Goodkin Co. The unit is also equipped with a pressure back for making photocopies, line negatives, halftones by contact screen, photographic silk screen stencils and similar photographic functions. Its design also permits the Camera Lucikon to be used as a light table.

For copying and tracing operations, the copy is placed on the unit's 29 in. by 29 in. copyboard and projected upon a drawing surface measuring 24 in. by 24 in. The camera is equipped with a black hood for this purpose. Sponsor claims hand shadow in the projected image is eliminated permitting the tracing of fine detail work.

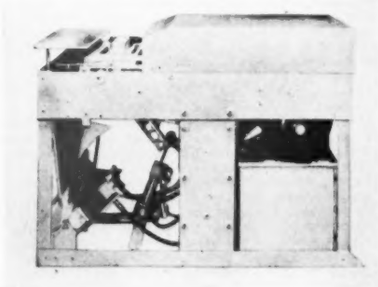
Both the lens and copyboard are



equipped with parallel adjustments on all four corners for accurate projection operations. An exhaust fan is provided for taking the heat away from the operator. The Camera Lucikon is made of 18 ga. steel. Hand wheels are provided for manipulating the lens and copyboard. Floor area of the unit is 30 in. by 36 in. Please mention PEE No. 297 if additional information is desired.

Book Rounder and Backer

A hydraulically operated, self adjusting automatic book rounder and backer has been announced by Printing Industries Equipment. The machine is designed for



rounding and backing of library and edition books of varying thicknesses. Sponsor states no adjustment is required for books of different thicknesses. Book thicknesses from ¼ in. up to 3½ in. can be accommodated. Two models of the machine are available. One for library work is hand fed and runs at approx. 500 books per hr. The other is for edition work and is designed for automatically feeding two books at a time at speeds of approx. 2000 books per hr. Both models are equipped with automatic delivery. Please mention PEE No. 307 when writing for more details.

Winder and Reel Bulletin

Illustrations and descriptions of the Pacemaker Two Drum Winder and Pacemaker Automatic Collapsible Register Reel are included in a bulletin issued by Dilts Machine Works Div., The Black-Clawson Co. The winder is designed to handle webs ranging from tissue up to

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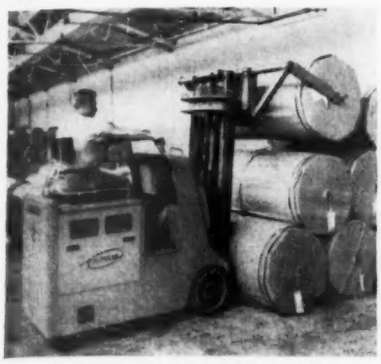
60 lb. papers. An automatic density control on the unit provides for the winding of tight or loose rolls. The reel is designed to maintain the register of sheets in webs of lightweight papers and plastic materials. Sponsor states rate of collapsibility can be regulated while the reel is operating. A copy of this bulletin may be obtained by mentioning PEE No. 288 in your request.

Cradle Attachment for Handling Paper Rolls

The Elwell-Parker Electric Co. has developed a cradle attachment for its fork trucks which permits reaching into a pile of paper rolls to pick up rolls



not ordinarily accessible. In operation, a rod or bar is inserted through the core of the roll, extending slightly from each end. Notches on the ends of the cradle arms engage the rod to pick up the roll. To deposit the load, the truck's elevator mechanism is lowered until the load rests on the floor, free of the arms. Various arm lengths may be designed depending on the size and weight of the load and the reach desired. Further information may be obtained by mentioning PEE No. 278 in your request.

Improved Tally-Tab—Miller-Lauffer Printing Equipment Corp. has announced improvements in the Tally-Tab automatic sheet counter and marker. The

device is used in padding, cutting, folding, binding, boxing and similar operations requiring accurate count control. The portable unit automatically counts and inserts tabs into the delivery piles of presses, folding machines, etc. A standard mechanism on the Tally-Tab provides counts of 25, 50, 100, 250 or 500 sheets, as desired. Special count units, which are interchangeable with the standard count unit, are available. For more details, please mention PEE No. 321 in your request.

DuPont Polyester Photographic Film Base

The new polyester photographic safety film base developed by E. I. du Pont de Nemours & Co. has been given the trade mark Cronar. Company states the film is well suited as a base for Graphic Arts film, motion picture film and microfilm. It is claimed to be several times tougher than present types of safety film base, with much greater dimensional stability, and equal flame resistance. In tests of folding endurance, Cronar polyester photographic film base is reported to have withstood an average of 17,000 flexings. Greater toughness permits the thickness of motion picture film to be reduced from the standard 5.5 mils to 4 mils (0.0055 to 0.004 in.) This reduces considerably the shipping weight and storage volume per foot of film. For example, a reel which holds 2000 ft. of ordinary 35 mm. motion picture film will accommodate 2700 ft. of film made on Cronar base, the weight of each being approx. the same. By mentioning PEE No. 285 in your request, further information will be sent gladly.

Metalphoto Process Bulletin

Permanent photographic reproduction on anodized aluminum plates using standard darkroom techniques is explained in a four page bulletin released by Metalphoto Corporation. The aluminum plates, measuring 0.020 in. thickness, are available in sizes 4 in. by 5 in., 8 in. by 10 in., and 10 in. by 12 in. They are designed for the production of such items

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Eastern Catalog No. 12 Available on Request

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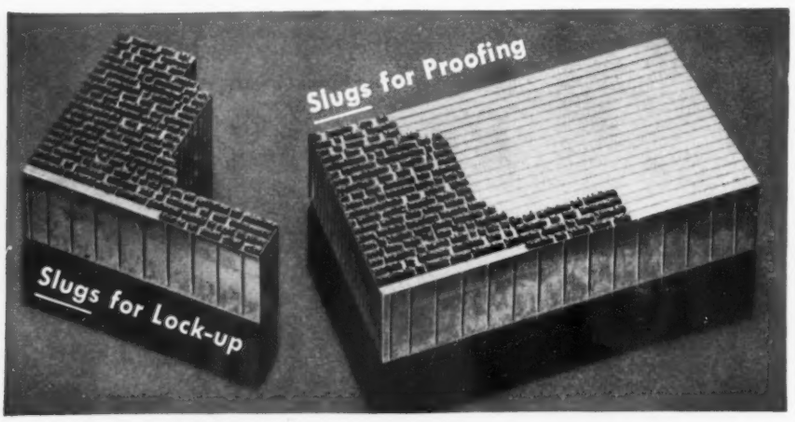
as name plates, dial and watch faces, wiring diagrams, instruction panels, instrument and slide rule scales, etc. Copies may be obtained by mentioning PEE No. 281 in your request.

Pre-Sensitized Offset Plate

A pre-sensitized photo offset plate designed for use in the printing of halftones, line work and solids, has been announced by the Davidson Corporation. Designated the Photorite plate, sponsor reports length of run and dimensional stability are good. The plate is made of a special paper. The company states that a single developing solution is required when the plate is to be used for short run work. The plate is available in sizes for use on all Davidson presses and other small offset presses. For further information, please request PEE No. 310 in your letter.

Control Counters Booklet

Predetermined electronic counters designed for controlling printing equipment are the subject of a 20 page booklet issued by Potter Instrument Co. Typical applications of the counters are described and illustrated in detailed diagrams. The booklet contains descriptions of counters capable of being preset to apply control after any desired number of counts from one to a million, and a line of count detectors for converting physical increments into electrical impulses for counting. Please mention PEE No. 312 in your request for a copy.



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■ Today, with the growth of offset, many composing rooms deliver reproduction proofs as often as they deliver sawed type slugs for lock-up.

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Reproduction proofs of similar composition can be made more efficiently if the slugs are unsawed, thus facilitating lock-up. In this case the Mohr saw blade is easily disengaged. All slugs are then cast to the full set measure, but the operator has all the advantages of Mohr Measure Control. The single dial adjustment sets both the lefthand vise jaw and the assembler slide.

The Mohr system provides the flexibility to either saw slugs automatically or set precise measure on unsawed slugs—as the need arises.

Write for the complete story on the Mohr Saw

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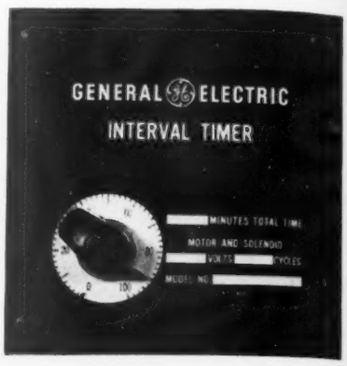
G-E Process Timer

A process timer, featuring one knob control, has been announced by the General Electric Co. Designated the



TSA-21, the device is designed to control the timed simultaneous closing of one electric circuit and opening of another. Industrial applications for the process timer include molding presses and automatic mixing operations. The TSA-21 includes one set of time-opening main contacts and one set of electrically separate time-closing main contacts. The trip point of the main contacts may be adjusted by an external knob. Also, each timer is equipped with a set of instantaneous contacts which can be used independently or as hold contacts for the timer solenoid. The time scale is calibrated from 0 to 100 per cent. The TSA-21 weighs 6¾ lbs. and measures 5¾ in. by 5¾ in. by 8$^{5}/_{32}$ in. Please mention PEE No. 294 when writing for more information.

Improved Photolettering Machine

Improvements in the Typro photolettering machine, reported by the Halber Corporation, include a double roller drive and contact indicator. The machine

is designed for producing display composition and headings by contact printing on either sensitized paper or film in positive or reverse form. The Master Film font alphabets for the machine are available in hand letter styles and regular type faces, and in sizes ranging from 10 pt. to 144 pt.

Halber states the fonts feature preproportioned letter spacing. Letters automatically overlap or connect when required. Word spacing is automatic.

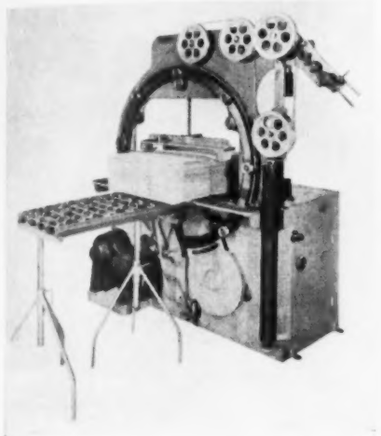
Sponsor claims 35 features for the Typro machine. These include a movable printing head permitting the composition of up to ten lines above or below one another on one strip, flush left or right or centered, and with control of line

leading. Snap-in interchangeable magazines each accommodate from 10 to 20 fonts. The automatic developer unit develops and fixes simultaneously.

A brochure in which the machine is described in detail and specimen sheets of the type faces available are offered by Halber. Please mention PEE No. 319 when requesting a copy.

Automatic Wire Tying Machine

Applications of the Inland-Union Wire Tying Machine include bundling of news-



papers, magazines, knock-down corrugated or fiber containers, packages, etc., according to Inland Wire Products Co. The wire twisting unit of the machine is accessible for convenient adjustment. Wire tension is mechanically controlled. It is also designed for the addition of automatic pusher feeder on certain types of work. The machine measures 62 in. by 35 in. by 77 in. and weighs 3600 lbs. Built in jacks and casters permit movement. Maximum tying speed is claimed to be 24 ties per min. Further information will be sent by requesting PEE No. 316 in your letter.

Drudgery Eliminated by Spaceband Dip

In discussing Blackenite Dip for linecomposing machine spacebands, J. E. Van Tuyl, Blackenite Company, stated that on linecomposing machines, spacebands must be treated by the hand rubbing method at least once per shift to prevent metal accumulation on the casting edge of the sleeve and also to provide justification lubrication between the sleeve and long wedge. At the same time, the lubricating means must be such that matrices will not be fouled with oil or grease in any manner which will interfere with falling by gravity from the magazine channel. Polishing spacebands at regular intervals with dry graphite by hand on a board is a drudgery job. Cleaning and polishing spacebands by the hand method described above is usually done under protest because of the consequences involved in case of failure to do so. Spacebands are subjected to severe treatment in performing their line justification function. Hence, next to preventing breakdown of matrix sidewalls, spaceband lubrication between the wedges must also be maintained.

Blackenite, Van Tuyl explained, is a liquid solution into which the spacebands are dipped. After being permitted to air dry for approx. 10 min., the spacebands are ready for use without hand polishing on a board. During the drying time the liquid evaporates and the solids in the solution, being of exceedingly fine microscopic particle size, enter the pores in the spaceband surfaces to which they cling tenaciously. When first starting to use Blackenite, the spacebands should be gone over to remove metal accumulations from the casting point of the sleeve. Field tests indicate that Blackenite should be dipped twice a week on single shift machines. The same ratio should be followed in multiple shift machine operation. Sponsor states the ingredients used in Blackenite will not harm spacebands or matrices. Blackenite may also be used for lubricating quadder rails and the slides on Mohr Saws. Further information will be furnished if you will mention PEE No. 279 in your request.

Gang Hole Punching Dies

Tauber Plastics, Inc., has developed a gang hole die designed for punching multiple round holes through thick lifts of paper at one time. Sponsor claims the dies require less frequent sharpening. Made in 6 in. sections, Tauber states, the dies, when added together, maintain a uniformity of spacing. They are designed for Rosback and Portland punching machines. Sponsor also claims that in coil wire bookbinding the use of the die permits complete books to be punched at one time. Please mention

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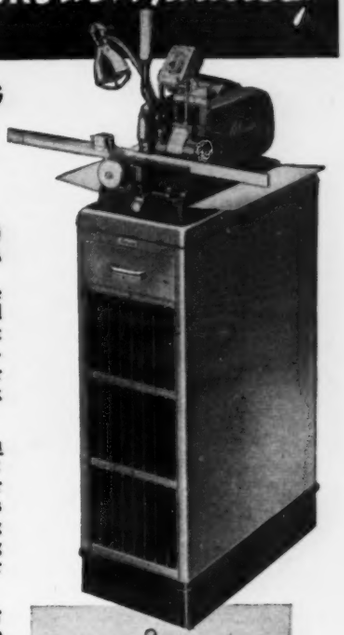

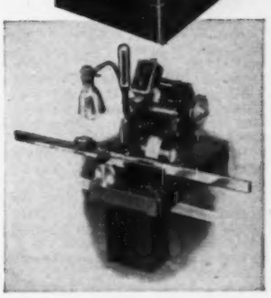

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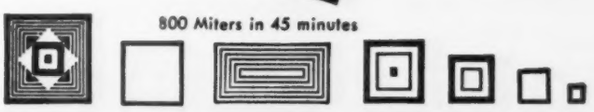

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PEE No. 296 if additional information is desired.

Niagara Bulletin 122

In Bulletin No. 122, published by Niagara Blower Co., are described and illustrated methods of air temperature and moisture control produced by Niagara equipment. Please mention PEE No. 237 when writing for additional information.

Pitman Magnifier Catalog

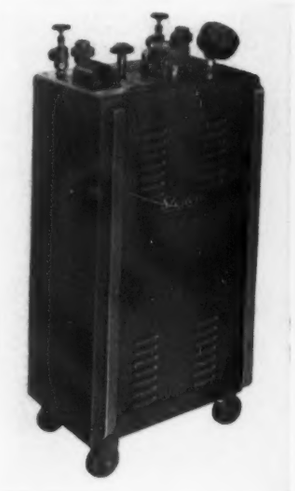
Displayed in a catalog, available upon request, is the wide range of precision magnifiers offered photoengravers, process camera operators, lithographers, retouchers and electrotypers by the Harold M. Pitman Co. With the recent acquisition of the Page Company, Pitman offers complete magnifiers and a full line of replacement parts and service, all described in detail in the catalog. A copy of the catalog may be had, without obligation, by mentioning PEE No. 252 in your request.

Offset Press Bulletin

Features of Pacemaker single or multicolor offset presses designed for the printing of lightweight tissues, patterns, wrappers, etc., are discussed in a two-color, four page bulletin prepared by the Dilts Machine Works Div., The Black-Clawson Co. Press accessories suitable for application on existing offset presses are also described. These include automatic oscillating distribution rolls and mechanism, Uniflo ink fountain and a straight-type plate gripper. Plate cylinder width is 52 in. and circumference is 94¼ in. You may receive a copy of the bulletin by asking for PEE No. 289 in your request.

Temperature Control Unit

A unit designed for controlling temperature on ink rollers of printing presses has been reported by Sterling, Incorporated. To be known as the



Sterlco 6012, sponsor claims the single temperature control unit provides adjustable and automatic heating, fast reacting heating control, low water capacity, high water velocity and modulating cooling control. According to the Sterling firm, the Model 6012 is especially suited where automatically controlled temperature between 60 and 120 deg. F. is desired on the inking rollers of multicolor presses. It normally operates in vertical position, but is designed to also operate in four horizontal positions. For applications where more than a single temperature is required, as on larger presses, the Model 6012 can be arranged in multiples. You may acquire additional information by mentioning PEE No. 270 in your request.

Pre-Press System Booklet

A plastic bound booklet devoted to a case history, descriptions and illustrations of the Vandercook Pre-Press System has been issued by Vandercook & Sons, Inc. Printed in two colors, the booklet contains a case history of the installation of the Pre-Press System at A. H. Pugh Printing Co., Cincinnati, O. Another part of the booklet deals with the Vandercook 68 Makeup Gauge. Setting up procedure, operating parts and makeup procedure of the gauge are included. A description of the new Vandercook plant in Chicago by Louis Flader forms another section of the booklet. For a copy, please ask for PEE No. 299 in your request.

Hook-on Volt-Ammeter

A wide range, pocket size volt-ammeter for measuring alternating current and voltage has been announced by the General Electric Co. Uses include checking circuits, motor overloads and determining motor starting and running currents. Measuring 9⅛ in. by 3⅞ in. by 1⅜ in., the instrument is designated AK-4, and includes 150/300/750

The Cost of Moving Equipment on our Floor is Prohibitive . . .

So We've SLASHED PRICES

1—Kelly Press No. 2, 24x35,rebuilt $6500
1—Miller Simplex Press, direct drive motor, rebuilt No. 4073 6000
3—Miller High Speed Presses, swing back feeders, good operating condition ea. 975
1—Miehle Vertical V-50, good operating condition 4900
1—Pony Miehle, No. 17265 with D.S.P. and E.D., motors, good operating condition 3500
1—Glockner Press 15x22 brand new showroom model, fully electrically equipped Price only 4500
1—Glockner Press, brand new with extension delivery same as above, Price 5300
(Send for descriptive circular)
1—Post Envelope Press 350
1—Post large model Envelope Press 450
4—Kluge Units, 10x15, 6 roller, good operating condition ea. 1500
2—Kluge 12x18, Double Fly Wheel, for printing and die-cutting, rebuilt ea. 2200
1—No. 5 Babcock Automatic unit D.S.P., size 30x43, and E.D. motors 4500
4—C & P Craftsmans with Rice automatic feeders, 10x15, good operating condition ea. 1250
2—C & P Craftsmans with Rice automatic feeders, 12x18 ea. 1600
1—Multilith Model 1250 very late model 10x14 Serial No. 452018 1250
3—Multiliths, Model 1327, 11x17 ea. 1100
1—Davidson, Model 818, 10x14 850
3—A.T.F. Offset Webendorfer Chiefs, 17x22 complete with motors ea. 4000
2—Harris Offset Model L.S.B., 17x22 complete with motors ea. 4500
2—Harris Offset Model E.L. 22x34 complete with motors ea. 7000
2—Model 325G Vandercook power driven proof presses, power tape delivery Size 24x47 Refinished ea. 2000
1—Vandercook, Model 2, size 20x28 400
1—Vandercook, Model 20, 12x23 self-inking 275
1—Vandercook, Model 32, self-inking, 15x28 375
1—Potter No. 2 Gripper Proof Press, self-inking, feed table, side guide, 17x25 600
1—50" 1OZ Seybold Automatic clamp paper cutter 3850
1—Dayton Seybold 36" automatic clamp paper cutter, rebuilt 1900
2—National full automatic 32" Paper Cutters, refinished 900
1—Perfecta 51" Paper Cutter, power back gauge, automatic spacer, automatic clamp 2000
1—59" Perfecta Paper Cutter with power back gauge fully automatic 2500
2—Come fully Automatic clamp Paper Cutters 31" and 43", power back gauge, automatic spacing, brand new showroom models, complete with motor (Send for circulars and special price)
1—Blue Streak Linotype, Model 8 No. 55581; electric pot, excellent 5250
1—Model H Intertype Serial No. 12269, 3 magazines, electric pot, Mohr saw, blower 2850
1—Model H intertype Serial 12270, 3 magazines, quadder, Mohr saw, electric pot, blower 3200
1—Model B-2 Intertype, Serial No. 9051, electric pot 3000
1—G2 Intertype, Serial No. 13221, late style electric pot, with Mohr saw combination 72-90 Mixer 3950
1—Model 8 Linotype, Serial No. 41388, 3 main magazines, electric pot, rebuilt 3750
1—Model 8 Linotype, 46,438 Serial No., with gas or electric pots, in good operating condition 3350
2—Chemco 24" Automatic Cameras with Carl Zeiss Lenses ea. 1400
3—A3 Trim-O-Saw, with router and jigs, 28x28 table 375
1—Sheridan 4-A Embossing Press, 15x20, with 3-draw Peerless gold leaf attachment, electric head, sliding bed 2750
1—Sheridan Arch Embosser, 14x15, 3-draw gold leaf attachment, electric head, thermostat 1400
1—Standard No. 9, 14x20, with 3-draw gold leaf attachment and printing ink attachment, feeder, 4 poster (send for circular) 3200
1—Cleveland Model, 19x25, Folder with suction power feeder, rebuilt 1800
1—Cleveland Model B, 26x40, Folder with continuous feeder, in good operating condition 1000
1—Boston, Model 17, Wire Stitcher, with 6 heads 775
1—No. 7 Boston Wire Stitcher CAP. ¼" 375
3—Rosback 30" Rotary Pin Hole Perforator, equipped with 4 heads 950
1—Rosback 36" Rotary Perforator, equipped with 8 heads, with automatic feeder 1500
1—Rosback Hi-Pro Power Paper Drill 300
2—Hoe Full Page Combination saw and trimmers ea. 375
1—Rouse No. 1 Band Saw 275
1—Miller Pedestal Model Universal Saw with Margach holder and gauge, motor 300
1—Brand new Nolan Power Mitering Machine 250
1—Wesel Full Page Casting Box 175
1—Wesel Flat Bed Shaver 18x26 250
1—Hoe No. 5 Stereotype Shaver Worm Feed 19x28 375
1—Form-O-Scorcher, Model S.C 200
1—W Lloyd Rotary Head Planer 17x25 250
1—Lloyds Plate Edge Trimmer 23x23 175
1—Royle Electric Beveler 300
1—Nicco Raised Printing Machine, blower, exhaust, power driven 350
1—Large Size Mullen Paper Tester 175
1—Koehler Two Color Bag Imprinting Machine 1200
1—Ditto Power Machine, like new 200
1—Morrison Double Head Carton Stitcher 350
1—Morrison Carton Stitcher Model 32 L.G 300
2—Morrison Carton Stitchers, Model 3MF3 ea. 300
1—Morrison Carton Stitcher Model 32MF 300
5—Latham Corner Box Stitchers
1—Marshall Box Corner Cutter, foot operated 250
7—Lewis-Shepard and Barrett Lift Trucks

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v., a.c. as its volt ranges. Sponsor states it is designed for measuring current on both insulated and non-insulated con-

ductors without cutting the conductor or interrupting work. The volt-ammeter is equipped with scales which may be changed automatically by turning the range selector knob, a feature designed to prevent the possibility of reading a wrong scale. Current range of 10/30/100/300/800 amps. a.c., provides for the measurement of currents usually encountered in industrial or commercial circuits. In measuring voltage, the screw-in safety voltage leads are connected into recessed terminals for the protection of the operator. Then the desired voltage range and scale is selected by turning the selector knob. For further details, please mention PEE No. 293 in your request.

NEWS ITEMS

Dayco Representative—Norman A. Ruggles has been appointed sales representative in the New England states for the Dayco Roller Div., Dayton Rubber Co. Ruggles will make his headquarters at 176 Winthrop Rd., Brookline, Mass.

SCHULTZ

Paul Schultz has been appointed to a general staff position with Clark Equipment Co. with responsibility for carrying on standardization work in engineering and control procedures. The announcement was made by George Spatta, President of the firm.

Opens Philadelphia Showroom — Foster Mfg. Co. recently held open house in its new showroom located at 210 N. Broad St., Philadelphia.

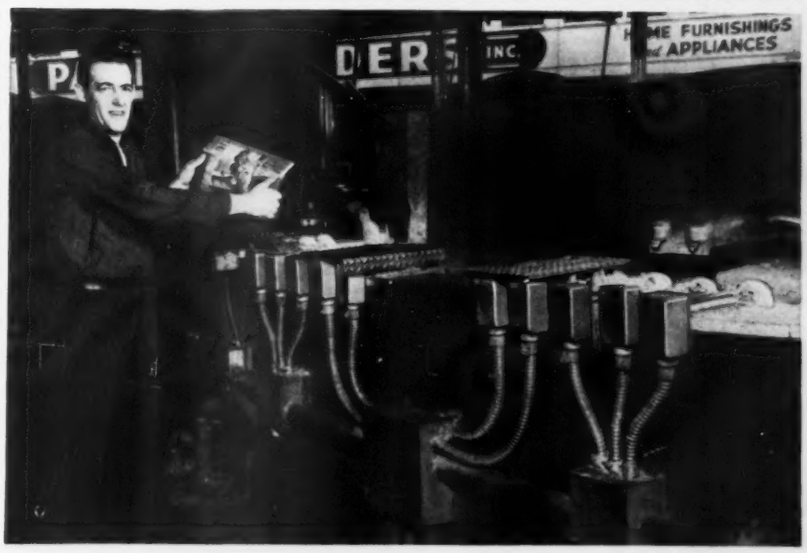
Visits Denmark—Olaf T. Gylleck, Advertising Mgr., The Challenge Machinery Co., recently returned to his native Denmark for a vacation after an absence of 62 years. While in Copenhagen, Gylleck was honored by an association of magicians. He is known in the Graphic Arts field for his feats of magic.

RYAN

John J. Ryan has been appointed General Service Mgr. of Lanston Monotype Corp. and will direct its newly formed Service Div. Associated with Lanston since 1953, Ryan formerly was service representative for the firm in the New York District.

I. O. (Zeke) Marques, Mechanical Supt. of two Imperial Valley (Calif.) daily newspapers, has purchased the *Pismo Times,* a weekly at Pismo Beach, Calif. He is in partnership in the publishing venture with Howard Seelye. Marques was superintendent of the composing and pressrooms of the El Centro *Post-Press* newspapers and the *Brawley News.* A native of Massachusetts, he has been employed in the composing rooms of the San Diego (Calif.) *Union-Tribune,* the Providence (R. I.) *Journal* and worked for the Providence Printing Co. The new owners took over operation of the Pismo Beach *Times* on Sept. 1.

Two New Executives at Miami Herald—General Mgr. James L. Knight announced appointment of two new mechanical executives in the Miami (Fla.) *Herald* plant. The first appointment is that of Richard M. (Dick) Fitzgerald, recently Mechanical Superintendent of the Worcester (Mass.) *Telegram-Gazette.* Fitzgerald succeeds W. B. (Bill) Sandlin, formerly *Herald* Mechanical Superintendent for 30 years who resigned because of



H. A. Bundschuh of the Seattle Post Intelligencer says:

"G-E Calrod heaters melt 1½ tons of lead 3 to 5 times faster than previous method"

"When we used oil and gas for our melting," Mr. Bundschuh goes on to say, "it took 20 to 40 minutes to melt 1½ tons of lead and bring it up to workable temperature. With General Electric Calrod heaters on the melter, we do the job in only seven or eight minutes."

Like the Seattle Post Intelligencer you'll get fast, dependable stereomelting when you use electric heat. And G-E Calrod* heaters are built to last. One newspaper recently reported heater life of twenty-three years.

For help in selecting new stereomelting equipment or in planning conversion of present equipment, contact your G-E Apparatus Sales Office. And send for Bulletin GEA-5453, "Melting Stereotype Metals with Electric Heaters." Section 720-138, General Electric Company, Schenectady 5, N. Y.

*Reg. trademark of the General Electric Company.

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GENERAL ELECTRIC

poor health. Sandlin will remain a member of the executive staff in the capacity of adviser and consultant. The second appointment announced by Knight is that of T. R. DePeugh for the last nine years Superintendent of the Miami (Fla.) *Daily News*, who is now Stereotype Superintendent of the *Herald*. W. M. (Bud) Clay, acting foreman of the *Herald* stereotype department, remains with the organization. Harry B. Reese will continue as Production Manager.

Plant Expansion Program — As part of a general expansion of facilities and streamlining of operations Laurel Process Co., Inc., New York, N. Y., has installed a new 35 by 45 in. two-color Harris offset press. It is also anticipated that a new 22 in. by 34 in. Harris two-color offset press will have been installed in October 1954.

Harris-Seybold Report—Again this year, Harris-Seybold Co. has published a colorful, well designed annual report for the fiscal year ended June 30, 1954, in which it shows a 15% increase in consolidated shipments over 1953. The financial statements and other data in the report also includes Harris-Seybold's subsidiaries—the Cottrell Company, Harris-Seybold (Canada) Ltd. and the Macey Company. From the printers' standpoint, an interesting part of the report consists of circular illustrations which show how full color printing produced by letterpress, offset and gravure looks when magnified 100 diameters. It also includes a number of pages showing equipment made by the firm and illustrations in color of products printed on Harris and Cottrell presses. Pres. George S. Dively reported consolidated net shipments increased to a total of $33,405,210, about 15% higher than last year's $29,066,328. Harris-Seybold's forward program is reviewed. In the program, a substantial growth is called for over the next five years. Also discussed and illustrated are both the new and the improved products resulting from Harris-Seybold's extensive research and development program.

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Any Press is a Better Press
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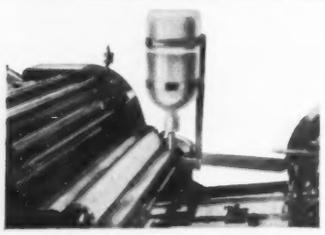
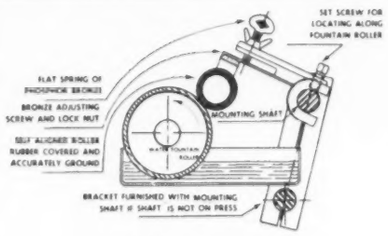
The Baldwin line of expertly engineered press equipment has been designed to increase press efficiency and production uniformity with minimum maintenance and expense. For complete details of any item, please send make, model and sizes of your presses.

All Baldwin equipment sold on 30 day free trial.

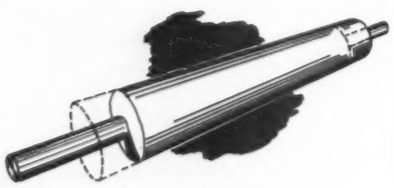
BALDWIN INK AGITATORS
—Continuous traveling rotating cone keeps ink against fountain roller, uniform on the job in mill condition. Cone is simple to remove and clean. Separate motor drive. Applicable to almost any offset or letterpress fountain.



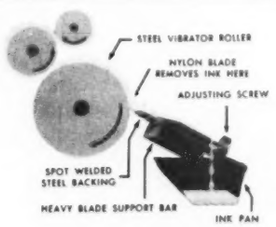
BALDWIN WATER LEVELS
—Automatically maintain constant fountain solution level, stabilize fountain setting, save pressman's time. Unbreakable polyethylene container has automatic non-spill valve — keeps solution supply visible.


SET SCREW FOR LOCATING ALONG FOUNTAIN ROLLER
FLAT SPRING OF PHOSPHOR BRONZE
BRONZE ADJUSTING SCREW AND LOCK NUT
MOUNTING SHAFT
SELF ALIGNED ROLLER RUBBER COVERED AND ACCURATELY GROUND
BRACKET FURNISHED WITH MOUNTING SHAFT IF SHAFT IS NOT ON PRESS

BALDWIN WATER STOPS
—Make moisture control easy and positive, end flood and dry-up problems, eliminate frequent hand settings. Fully adjustable to all requirements, easily installed. 2 to 10 inch sizes, longer on special order.



BALDWIN VIBRATING ROLLERS
—Improve ink and water distribution to reduce "layout ghosts" on offset and letterpress presses. Standard stroke, 3 to 6 inches—longer on special order. Diameters to fit small spaces.



BALDWIN PRESS WASHERS
—Give fast, clean washups automatically, without ink roller removal. Adjustable nylon blade guaranteed six months, easily replaceable. For offset and letterpress.

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BALDWIN PRESS WASHERS • BALDWIN WATER STOPS • BALDWIN WATER FOUNTAIN LEVELS

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CASSERA

Leaves for Germany — Dante Cassera, Service Supervisor for Heidelberg Eastern, Inc.'s, Columbus, O., office, departed recently for Heidelberg, Western Germany, for an extended stay, according to James D. McCann, Regional Mgr. Cassera will study production techniques of Heidelberg platen and cylinder presses which are manufactured in that city.

HEWITT

William L. Hewitt has been elected Treasurer of Intertype Corporation, it has been announced by President Harry G. Willnus. Hewitt succeeds Harry A. Grube, who has retired after 40 years of service with the firm. He is a graduate of Union College with a degree in Civil Engineering.

Pittsburgh Craftsmen Honor Edgar — Bob Edgar, popular outgoing president of the Pittsburgh Club of Printing House Craftsmen, was the center of attention at a recent meeting of the organization. Along with Mrs. Edgar, he was honored and presented with appropriate gifts for his work in the Club and in planning the Fifth District Craftsmen's Conference in that city last June. Intl. Second Vice Pres., George Wise of Cleveland installed the Club's new officers. They are: William H. Joel, President; H. Ben Albitz, First Vice Pres.; M. F. McGrew, Second Vice Pres.; Harry E. Loughry, Secy.-Treas.; and Frank Berardino, Recording Secy.

DePOLIS

L. A. DePolis has been appointed General Sales Mgr., Industrial Truck Div., Clark Equipment Co., according to an announcement by Robert H. Davies, Clark Vice Pres. In his new position, DePolis will supervise sales activities of Clark dealers in the United States and Canada. He will make his headquarters in Battle Creek, Mich.

MORRISON

DOMIN

FRITZ

DRESCHER

Sun Supply Appointments in Chicago—Thomas F. Morrison has been named Chicago Sales Mgr. of Sun Supply Co., Div. of Sun Chemical Corp. He will be in charge of the company's Midwest sales. Other appointments to the Sun Supply sales staff in Chicago include Arthur A. Domin, Robert L. Fritz and Leslie G. Drescher. Domin, a sales representative, and Fritz, a sales technician, will work in the Chicago area. Drescher will cover the Michigan and Indiana sales territory, working out of Chicago.

MIDGETTE

Engineering Appointments at Intertype—Ernest L. Midgette, since 1949 a consulting member of the Board of Engineers of Intertype Corporation, has been appointed Director of Research, Development and Engineering, according to an announcement by Harry G. Willnus, President of Intertype. At the same time, Vice Pres. Herman R. Freund assumes new duties as Consulting Engineer and supervisor of all typographic matters. Midgette holds the degrees of B.S. and M.S. in Mechanical Engineering from the University of North Carolina. He has been associated with the U. S. Rubber Reclaiming Co., Johns Hopkins University and Polytechnic Institute of Brooklyn.

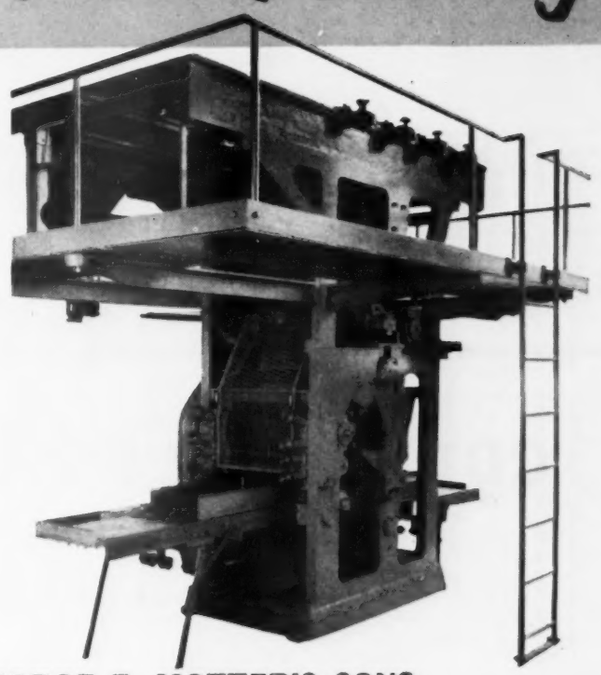
The Intertype firm also announced that Richard L. Cannaday has been appointed Secretary of the Board of Engineers, and William H. Fangemann, who has been with the company's Engineering Dept. since 1934, has become a new member of the Board of Engineers. Cannaday is a graduate of Massachusetts Institute of Technology, from which he holds the degrees of B.S., M.S. and Mechanical Engineer. He also holds an L.L.B. degree from St. John's University. Fangemann was graduated in 1936 from New York University with a B.S. degree in Mechanical Engineering.

RICE

Cleveland Purchase—The Corday & Gross Co., 60 year old Cleveland printing firm, has been purchased by The William Feather Co. of Cleveland. Sellers were the employees of Corday & Gross who owned all of its common stock. The addition of Corday & Gross brings total office and plant personnel in the Feather organization to approx. 225. Both firms have machine and hand composition departments, pressrooms with multicolor equipment and mechanized binderies, while The Caxton Co., also consolidated with Feather, includes a photoengraving department among its operations. The Feather company was founded in 1916 by William Feather. Active direction of the business was assumed by his son, William Feather, jr., in 1946. Joining the Feather operations as Vice Pres. and Sales Mgr. of Corday & Gross is Robert C. Rice, a veteran of 41 years service with that firm. All office and sales personnel will be located in Feather's present offices at 812 Huron Rd. Production and service personnel of Corday & Gross will continue in present quarters of that firm.

Bendix T. Minden, President of Minden Paper Gauge Co., Inc., 230 W. 41 St., New York, N. Y., went abroad with an associate on August 20 for a month's business trip to various agents and dis-

Fast Folding



GEORGE F. MOTTER'S SONS

is well recognized in the book, newspaper and magazine publishing industries for the design, engineering and manufacture of high speed folders with built-in accuracy.

Shown above is one of the latest designs of George F. Motter's Sons' engineers. This machine folds "pocket" books at speeds up to 50,000 pages per minute.

The high speed folders designed and built by George F. Motter's Sons include fixed and variable size folders with collect or no-collect features as desired.

Whatever your folding problem is in the wide or narrow-web field, we invite you to consult our staff of experts.

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Designers and Builders of Printing Machinery

Presses — Folders — Auxiliary Equipment

Cottrell Elects Directors – At the annual stockholders meeting of The Cottrell Company held in Westerly, R. I., three additional directors were elected to the Board of Directors. They are: S. C. Saunders, Cottrell Vice Pres. for Sales; A. J. Graf, Cottrell Vice Pres. for Mfg.; and G. C. Houck, Harris-Seybold Vice Pres. for Operations.

SAUNDERS GRAF HOUCK

Other members of the Board are: Chairman, G. S. Dively, President, Harris-Seybold Co.; D. C. Cottrell, President, The Cottrell Company; R. R. Perry, Harris-Seybold Vice Pres.; W. R. Spiller, Harris-Seybold Vice Pres.; J. W. Powell, Harris-Seybold Vice Pres.; and M. H. Glover, Hartford National Bank. At a later meeting of the Board, Dively announced the following officers of the Cottrell firm for the ensuing year: Cottrell, President; Saunders, Vice Pres. for Sales; Graf, Vice Pres. for Mfg.; J. E. Meyer, Vice Pres. for Engineering; C. C. Sweet, Vice Pres. for Milwaukee Div.; Albert Halstead, Vice Pres. and Field Sales Mgr.; Powell, Vice Pres.; K. G. Stillman, Secy. and Treas.; D. E. Dredge, Comptroller and Asst. Secy.; and F. C. Szuter, Asst. Secy.

tributors. Minden will make arrangements to have some testing equipment made in Switzerland because of the hardship in selling European countries due to the limited dollar exchange.

Wins Welding Award – Theodore Hill of the Jacksonville (Fla.) *Florida Times Union* has been awarded $500 as a second prize in a national arc welding competition sponsored by the James F. Lincoln Arc Welding Foundation. The Cleveland (O.) Foundation made the award as one of 191 given to persons in non-industrial business and service establishments who submitted papers describing how arc welding is or could be used in the operation or maintenance of the business or service. Hill described how he made an emergency repair of a broken Linotype mold disk. Among the other awards was one given to David Murphy, owner of Kayenay Engraving and Colorplate Co., Mason City, Ia., who received $250 for a description of the construction of a copying camera.

MATTSON

George A. Mattson has been appointed Executive Director of the Chicago Lithographers Assoc. and will assume his duties about November 1. For the past eight years, Mattson has been director of industrial relations for the Lithographers National Assoc., Inc. He is a member of the Graphic Arts Trade Assoc. Executives and a graduate of Bucknell University and University of Pennsylvania.

CLINES

Charles W. Clines was elected Asst. Vice President of Tingue, Brown & Co. at a recent meeting of the company directors. Clines joined Tingue's Chicago office in 1943 after practicing law for 12 years. He later moved to the Tingue, Brown Atlanta (Ga.) office, where he is now Manager of the Atlanta mill.

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PRICE	1 Only	6 to 24	25 or More
1/8" Thick	$6.00	$5.10	$4.20
3/16" Thick	6.30	5.35	4.40
1/4" Thick	6.50	5.55	4.55
5/16" Thick	8.00	6.80	5.60
3/8" Thick	9.50	8.10	6.65

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NEW MODEL

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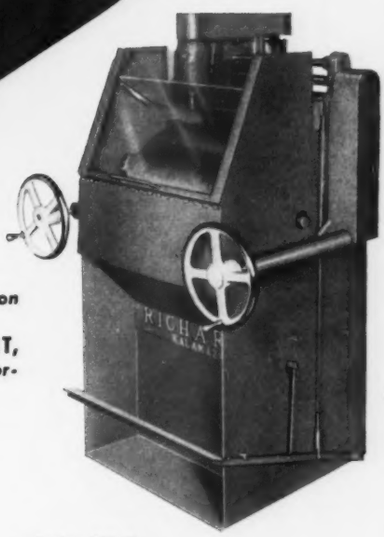
'MULTIFORM' RADIAL ROUTER
For Straightline and Fine Detail Routing
Patented Straightline Control Feature



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ENCLOSED CURVED PLATE ROUTER
with new close coupled single belt drive
Ball bearing construction throughout
Price $1875.00 complete

Code: EST-27x36 Table
ESST-32x42 Table
'ELECTROMATIC' SAW TRIMMER
For Stereotypers, Electrotypers, Photoengravers

Clifford R. Noble, Vice Pres., Art Gravure Corp., New York, N. Y., died September 7 at his home, 4 Dartmouth St., Forest Hills, L. I., N. Y., after a long illness. He was 56 years old. Mr. Nobel joined Art Gravure in 1937.

New Sun Director—Harold A. Kernell, Vice Pres., Sun Chemical Corp., has been elected a Director of the firm, according to an announcement by Ralph C. Persons, President. Kernell began his career with the American Printing Ink Co. in 1922. He has served as general manager of American and Eagle Printing Ink companies, and vice president of General Printing Ink Co. At the present time, he is chairman of Sun Chemical's Midwest Div. of General Printing Ink Co.

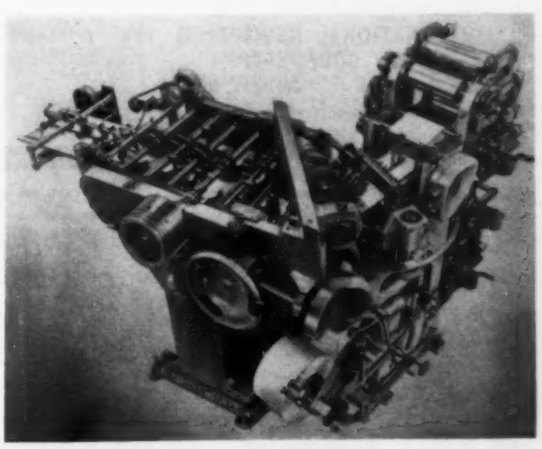
KERNELL

Todd's New England Plant Moved—Construction is now under way of a $100 thousand branch printing plant near Boston for the Todd Co., Inc., which will double the company's present facilities in that city. The new plant will be located on Broadway, Malden, Mass., according to A. Richard Todd, Exec. Vice Pres. It will also house Todd's New England sales office presently located in Boston. The plant is scheduled for completion by November of this year.

Herbert S. Rand, jr., has been appointed a Production Engineer with the Mergenthaler Linotype Co. and assigned a territory in New York, N. Y. He succeeds John E. Bennett who has been transferred to the company's Executive Sales Div. at Brooklyn, N. Y. Rand has attended the University of Maine and worked as a Linotype operator at the University Press, Bangor, Me., and the Bangor (Me.) *Daily News*. He has also been associated with Typesetting Service Co., Providence, R. I.

Howard H. Carstensen has been appointed District Mgr. of Scan-A-Graver sales and service for 11 western states and British Columbia, according to an announcement by John H. Clough, President, Fairchild Camera and Instrument Corp. Carstensen, whose headquarters will be at the District Office in Pasadena, Calif., succeeds Eino Heronen, who recently resigned. The new district manager joined the Fairchild organization in 1950. He has been in charge of sales for Illinois and Indiana.

Envelope Making Machines—Three envelope making machines have been announced by F. L. Smithe Machine Co., Inc. The Champion Model MR (shown here) is designed for making small open end and open side envelopes at speeds from 200 per min. on small envelopes up to approx. 400 per min. on medium and large size envelopes. The Champion Model MO is for the production of standard center seam open end envelopes. Open end envelope sizes produced on this machine range from 5 in. by 7 in. to 12 in. by 15½ in. Single side seam envelopes up to 9 in. or 10 in. can also be made. The Champion Model WRD is a diagonal web cutting and flexographic printing attachment which connects to the Champion Standard Wide Range Machines. It is designed to print and cut individual envelope blanks from a continuous roll of paper and feed them into WR folding machines for completion. Please request PEE No. 302 when writing for more details.



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Equipment being sold item by item includes both letterpress and lithographic machinery.

Prospectus on request

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SNPA Eastern Div. Holds Conference

Three hundred executives of the newspaper printing industry and manufacturing and supply firms were in attendance at the recent 13th Annual Mechanical Conference of the SNPA Eastern Div. held in Montgomery, Ala. Conference officials were as follows: Chairman, C. L. Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal & Sentinel;* Vice Chairman, L. H. Pickens, Mechanical Supt., Greenville (S. C.) *News-Piedmont*; and Secretary, Ray B. Crow, SNPA Headquarters, Chattanooga, Tenn.

The Machinists Clinic at the Conference was presided over by Fred L. Morris, Kingsport (Tenn.) *Times-News*. Speakers were O. E. Petry, Mergenthaler Linotype Co.; A. A. Banta, Intertype Corporation; Frank J. Phillips, Teletypesetter Corporation; and W. D. Jacobs, Knoxville (Tenn.) *News-Sentinel*. A feature of this year's Conference was a meeting of Mechanical Superintendents and Production Managers held under the leadership of Conference Vice Chairman Pickens. In addition to a group discussion on recent developments in the newspaper printing field, Thomas Pushon, Ink Laboratory Mgr., J. M. Huber Corp., spoke.

R. F. Hudson, jr., General Mgr., Advertiser Company, Montgomery, Ala., gave the address of welcome. *Keep Alive in '55* was the title of an address by Shields Johnson, Vice Pres., Times-World Corp., Roanoke, Va. Another talk was delivered by Lewis S. Somers, Exec. Vice Pres., Imperial Type Metal Co., who spoke on *The Care and Feeding of Type Metals*. High speed transmission of market tape was explained by Mr. Phillips.

Departmental meetings at the Conference were conducted by the following: Composing Room, Girt Cochrane, Charleston (W. Va.) *Gazette*; Pressroom, E. C. Morrison, Jacksonville (Fla.) *Florida Times-Union*; Stereotype Dept., A. C. Smith, Charlotte (N. C.) *News*; Engraving Dept., Warren L. Schrieffer, New Orleans *Times-Picayune*; and Mailroom, W. C. Weaver, Atlanta (Ga.) Newspapers, Inc.

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Installs Cottrell 5-Color Press—A Cottrell 36 in. by 48 in. five color rotary press has been installed at Charlton Press, Inc., Derby, Conn., by C. B. Cottrell & Sons. John Santangelo (left), President of Charlton Press, is shown discussing some of the features of the new press with Cottrell's New York Sales Representative, Aaron Hobart.

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The Spotlight is on

Walter C. Johnson

"With mingled feelings of satisfaction and sadness, I inform the membership of the Southern Newspaper Publishers Assoc. that my active connection of half a century with the Association will end with the convention at Boca Raton, Fla., November 8-10, when my successor will be elected." These were the words written by Walter C. Johnson, for many years Manager of the Southern Newspaper Publishers Assoc., in a bulletin under the heading: *Time to Retire. Printing Equipment Engineer* first came into contact with Johnson through his work with both of the SNPA Eastern and Western Division Mechanical Conferences. Aside from Johnson's abilities as a business man and representative of a publishers' association, we want to make the comment that he was among the first management executives to promote recognition of the mechanical executive in newspaper manufacture. In continuing recognition by the Association of the mechanical executive's importance to the newspaper publisher as initiated by Cranston Williams, he helped improve Southern newspaper production methods immeasurably.

JOHNSON

There isn't anything spectacular about Walter Johnson. He just didn't work that way. As SNPA's manager, he was a substantial person who paid attention to the matter in hand with stately courtesy but with persistence. He likes people and in return people like him. His successor, Tom Tanner, and both young assistants, Walter Johnson, jr., and Ray B. Crow all of whom have absorbed wisdom under his tutelage will serve the Association well. Johnson loves the South. He also is respected and has many friends among those damn Yankees in the North. He should have lots of fun adjusting his personality to a leisurely environment.

Great Lakes Exhibit Spaces Are Going Fast

Miniature plats have been mailed to equipment and supplies manufacturers showing number and arrangement of display booths for the Great Lakes Mechanical Conference to be held at Hotel Sheraton-Cadillac, Detroit, Jan. 16, 17, 18, 1955. The exhibit area is well situated. Excellent conference attendance is anticipated. A limited number of spaces remain to be engaged. Companies wishing to engage space are urged to get in touch immediately with

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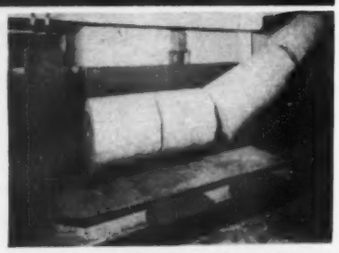

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Gravure Specifications Published By Intaglio

An up to date listing of gravure mechanical requirements has been issued by Intaglio Service Corp. Intaglio's new brochure, which includes every gravure-using publication, gives the gravure specifications for newspaper supplements and national magazines, plus an index to printing plants of gravure supplements and a chart with measurements for newspaper supplement four-color space units.

Media and production men will find that a helpful and thorough job has been done in presenting these "Mechanical Requirements", as the piece is called. For example, the newspaper gravure supplement specifications are broken down into these headings: Printing Plant, Newspaper, Positive Due Date from Intaglio, and Page Size; Four-Color Positives and Screen, Key Color, and Progs and Proofs.

The folder, an 8½ in. by 11 in. piece in three sections—opens full length for reference-at-a-glance. On the back cover is presented a thumbnail sketch of Intaglio's background, in addition to a brief description of what the company requires from advertisers and printers. New editions will appear as revision becomes necessary. In the meantime, copies of *Mechanical Requirements* may be obtained from Public Relations Dept., Intaglio Service Corp., 305 East 46th St., New York 17, N. Y.

Photoengravers' Invitation Outstanding — The American Photoengravers Assoc. has repeated its effective method of promoting its annual convention by issuing a series of colorful invitation folders. The first piece mailed to APEA members was a 15½ in. by 12¼ in. French fold invitation depicting on the cover a scene of St. Louis harbor in 1870. The 58th Annual Convention of the Association is being held in that city on October 11-13. Six follow-up pieces (one of which the cover is illustrated here) center around themes of the famous show boat era on the Mississippi River. Printed by letterpress in three colors, each follow-up folder measures 6¼ in. by 4⅜ in. Magnesium line cuts were used for the printing of the series. Frank J. Schreiber, APEA Exec. Secy., reports the convention pieces sent each year have won Certificates of Excellence when submitted in competition to the American Institute of Graphic Arts and other organizations.

BOOKS

(R)Evolution in the Printing Industry

Eight members of the Graduate School of Business Administration at Harvard University have prepared an 88 page report on the nation's printing industry. Entitled *(R)Evolution in the Printing Industry*, the report takes into consideration both management and labor views, as well as technical, research and development progress of machines and processes.

The report was undertaken as a project for Gen. Georges F. Doriot's Course in Manufacturing. It is understandable that the student authors had to rely heavily upon the opinions and theories of more than 100 leading industry executives. This aid is reflected in the conclusions reached by the group. Much of this book's information may be obtained by considerable library search, but it is a rare occurrence to find in a single text scattered data on a complex industry for convenient consumption.

The report is divided into three sections as follows: Printing past and pres-

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ent; New developments; and Evaluation and conclusions. Completeness has also been attempted, for the coverage of the chapter on platemaking includes sections on letterpress, lithography, gravure, magnesium plates, electronic engraving of plastics and dry offset.

Other chapters of interest to industry executives deal with phototypesetting, color reproduction, recently developed printing processes, present conditions in the industry, etc. We thought the group touched rather lightly on developments in the pressroom which some experts maintain is the core of printing production.

The Harvard scholars have uncovered some statistics on research as conducted in the Graphic Arts industry. Total research expenses for printing are revealed as only 0.017% of sales (1952). The group states: "Printing, when compared even to the lowest reported industries, petroleum refining (0.6%), and primary metals (0.4%), is devoting insignificant amounts to this vital activity." They further judge that these small expenditures do not augur well for the future.

They follow up this swing at research conditions by saying, ". . . Too little application of the sciences have been made in the printing industry. Those applications that have been made are predominantly of the 'gadgeteering method,' *i.e.*, directed at improving present steps in the process, rather than the scientific method of creating something new." They also conclude that few in the industry have been moved to take action on research and acknowledge that it remains a difficult question as to how and where research should be stimulated.

A sampling of some other observations to be found in *(R)Evolution in the Printing Industry* follows: . . . "very few engineers are to be found in printing plants . . . measured knowledge (in the industry) is limited . . . very little (research capital) is devoted to basic research . . . phototypesetting, magnesium fast etch and color correction devices could have a rather immediate impact on the Graphic Arts."

Interesting also is the authors' appraisal of the role printing could play in initiating a new era of world peace. They contend that radio and television are not serious contenders for the printer's dollar. They say: "The world requires not only cheaper but faster distribution of information in recorded form. Radio and television are too confined by time to transmit anything but selected news items. The great bulk of information necessary to our existence must still be transmitted in written form."

We label this report required reading for the progressive industry executive.

(R)Evolution in the Printing Industry—Book consists of 88 pages; measures 8½ in. by 11 in.; Kromekote cover printed in red and black with red plastic comb binding. May be ordered direct from Printing Research, P. O. Box 125, Cambridge 38, Mass. Price, $7 per copy.

Veterans Still in Harmony—Members of the original staff of *The Stars and Stripes*, Army newspaper published during World War I, harmonize at a reunion held at the National Press Club in Washington, D. C., during the recent national convention of the American Legion. In the foreground, from left to right, are: Ray Hunsche, Chet Geesey and H. R. Baukhage. Identified in the background are: A. E. (Gus) Giegengack, Richard Seelye Jones, Melvin Ryder and Dan Sowers. Geesey, Giegengack, Jones and Ryder were instrumental in forming the American Legion after World War I. Ryder, Hunsche and Giegengack are now officers of the Army Times Publishing Co., Washington, D. C.

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Color Appraisal Questionnaire

The Color Appraisal Task Committee of the Research and Engineering Council has released a questionnaire to a group of the leading plants in the Graphic Arts Industry. This questionnaire is designed to collect data of a technical nature which will furnish a basis for a technical report and a possible standard on Color Appraisal, which will be prepared by the Committee and released to the Industry through the Council. Copies of the questionnaire are available from the Research and Engineering Council, 719 Fifteenth St., N.W., Washington 5, D. C. Any person or firm who is interested in the problem of color appraisal and who has the appropriate qualifications to contribute to the advancement of the work of the committee, should contact J. Wallace Scott, jr., Chairman, at the address given above.

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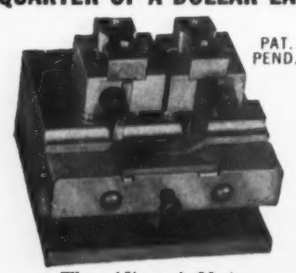

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Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. — 1954 Conf., Hotel Jefferson, St. Louis, Mo., Oct. 11, 12, 13. Pres., D. H. Murnik, Oakland National Engraving & Gravure Co., 307 Tenth St., Oakland 7, Calif.; Exec. Secy., Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

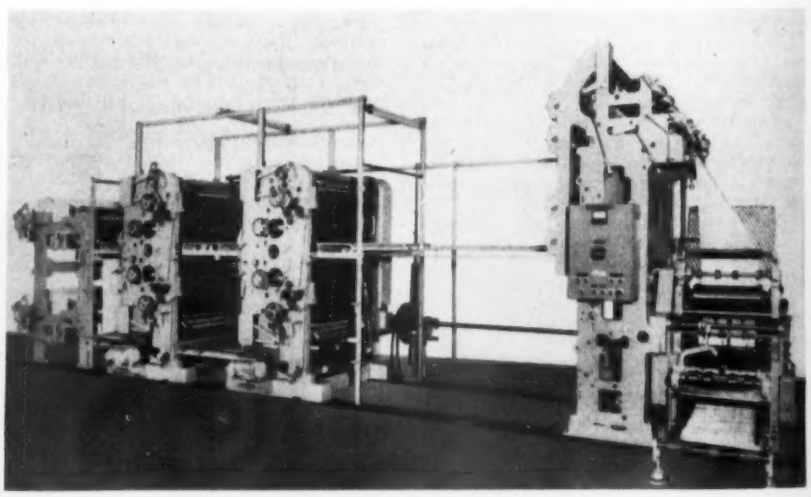
ANPA Mechanical Conf. — 1955 Conf., Edgewater Beach Hotel, Chicago, June 6, 7, 8. Chairman of the Committee, Joseph E. McMullen, Prod. Mgr., Milwaukee (Wis.) *Journal;* Mgr., ANPA Mechanical Dept., Richard E. Lewis, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute — 1954 Conv., Hotel Hershey, Hershey, Pa., Oct. 18, 19, 20. Pres. Sidney Satenstein, American Book-Stratford Press, Inc., 75 Varick St., New York 13, N. Y.; Secy., Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Fifth District Craftsmen's Conf. — 1955 Conf., Netherland-Plaza Hotel, Cincinnati, Aug. 6. Pres., Howard Keefe, Sales Representative, Cincinnati Lithographing Co., 4318 Duneden Ave., Cincinnati 36; Secy.-Treas., Dave Walker, Adm. Asst., Graphic Arts Assoc. of Michigan, 320 W. Lafayette St., Detroit 26.

Graphic Arts Trade Assoc. Executives — 1954 Meeting, Hotel Statler, Detroit, Nov. 13, 14. Pres., Richard A. Stout, Printing Industry of Atlanta, Inc., 881 Piedmont Ave., N.E., Atlanta, Ga.; Secy., Arthur L. Johnson, Graphic Arts Assoc. of Milwaukee, 704 W. Wisconsin Ave., Milwaukee 3, Wisc.

Gravure Technical Assoc.—1955 Annual Meeting, Drake Hotel, Chicago, Ill., Feb.



Emerson Installs Web Offset Press—American Type Founders recently installed a two unit web-fed perfecting offset press in the plant of The Emerson Press, Inc., Pittsburgh, Pa. The folder of the press is designed for delivering three sizes of folded signatures as follows: One 8 page signature, size 11⅜ in. by 17½ in.; one 16 page signature 8¾ in. by 11⅜ in., or one 16 page signature, size 5¹¹⁄₁₆ in. by 17½ in. Flat sheets delivered on the press measure 22¾ in. by 35 in. printed in two colors on both sides of the sheet. The press is also designed for delivering double the number of pages when printed in one color.

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2, 3, 4. Pres. John E. Hazel, New York *Daily News,* 700 Pacific St., Brooklyn 17; Secy.-Treas., Frank Sportelli, International Color Gravure, Inc., 39 W. 60th St., New York 23, N. Y.; Secy., Edward S. St. John, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conf. — 1955 Conf., Sheraton-Cadillac Hotel, Detroit, Mich., Jan. 16, 17, 18. Pres., Frank Dassori, Pressroom Supt., Detroit *Times;* Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. — 1955 Conf., Leland Hotel, Aurora, Ill., Sept. 24, 25. Pres., John Rausch, Aurora (Ill.) *Beacon-News;* Secy.-Treas., Wilbur Augspurger, Peoria Journal-Star, Inc., 119 So. Madison St., Peoria 2, Ill.

Intl. Assoc. Electrotypers & Stereotypers — 1954 Conf., Greenbrier Hotel, White Sulphur Springs, W. Va., Oct. 28-Nov. 1. Pres., Carl N. Becker, Becker Electrotype Co., 144 N. Water St., Milwaukee 2, Wis.; Exec. Secy., A. P. Schloegel, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen 1955 Conv., Netherland-Plaza Hotel, Cincinnati, O., Aug. 7-10. Pres., Thomas P. Mahoney, also Vice Pres., Regensteiner Corporation, 310 Racine Ave., Chicago 7; Exec. Secy., Pearl E. Oldt, Rm. 806, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.; Conv. Chairman, Lee Augustine, also Vice Pres., The Printing Machinery Co., 436 Commercial Sq., Cincinnati 2, O.

Intl. Graphic Arts Education Assoc.—1955 Conv., Carnegie Institute of Technology, Pittsburgh, Pa. the first week in July. Pres., Kenneth R. Burchard, Asst. Dean, School of Printing Management, Carnegie Institute of Technology, Pittsburgh, Pa.; Exec. Secy., Samuel M. Burt, 719 Fifteenth St. N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — Pres., Harold L. McGirr, Morris & Walsh Typesetting Co., Inc., 129 Lafayette St., New York, N. Y.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf. —Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—Kansas Pres., Howard Wilson, Jetmore (Kan.) *Republican* Secy-Treas., Larry Miller, Gen. Mgr., Kansas Press Assoc., 701 Jackson St., Topeka, Kan.; Missouri Pres., Louis N. Bowman, *Tri-County News,* King City, Mo.; Secy-Treas., William A. Bray, Missouri Press Association,

Saddle-stitching Set-up — Basset Press & Mailing Co., Pittsburgh, Pa., has combined two Rosback Auto-Stitchers and a reversible conveyor for uninterrupted production of saddle-stitched booklets. In operation, signatures are assembled on the moving conveyor for delivery to the Auto-Stitcher in the foreground. When a stitcher head on the machine runs out of wire or should the machine break down, the conveyor feed is reversed for delivery of the signatures to a second Auto-Stitcher located at the other end of the conveyor. The view of this second machine is here partially obstructed by bindery workers. Watching the operation in the foreground, from left to right, are: W. E. Dutney, American Type Founders representative, which made the installation; Susan Graham, President; Margaret McCusker, Auto-Stitcher operator; and Gene Herrman, Production Mgr., all of the Basset company.

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Lithographers National Assoc.—1955 Conv., Lake Placid Club, Lake Placid, N. Y., June 20-24. Pres., Carl R. Schmidt, Pres., Schmidt Lithograph Co., 461 Second St., San Francisco 7, Calif.; Exec. Dir., W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conf. — 1955 Conf., Ambassador Hotel, Atlantic City, N. J., March 17, 18, 19. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Dir., Theodore A. Serrill, PNPA General Mgr., 304 Telegraph Bldg., Harrisburg, Pa.

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National Assoc. of Litho Clubs — 1955 Conv. Milwaukee, Wis., May 5-7 (hotel to be announced later). Pres., Jack Blades, Washington, D. C.; Exec. Secy., Frank Mortimer, U. S. Government, Printing Office, Washington, D. C.

National Assoc. of Photo-Lithographers—1955 Conf., Hotel Statler, Cleveland, O., Sept. 21-24. Pres. Rex G. Howard, Howard Co., Peoria, Ill.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc. Pres., Richard B. Tullis, Pres. Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh 33, Pa.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Div. — 1954 meeting, Conrad Hilton Hotel, Chicago, Oct. 18-20. Gen. Chairman, Peter J. Bernard, Director of Personnel and Safety, H. Wolff Book Mfg. Co., 508 W. 26th St., New York 1, N. Y.; Staff Rep., Fred Lubet, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Mechanical Conf. — 1954 Conf., Hotel Statler, Boston, Mass., Oct. 16-17. Pres., J. William Powers, Mech. Supt., Burlington (Vt.) *Free Press;* Secy.-Treas., Walter C. Crighton, Comp Room Supt., New London (Conn.) *Day.*

New York State Capital District Mechanical Conf.—1955 Conf., Hotel Ten Eyck, Albany, N. Y., Jan. 29, 30. Pres., Floyd Laurenty, Schenectady (N. Y.) *Union-Star;* Secy., Walter E. Lewis, Asst. Supt., Schenectady *Union-Star.*

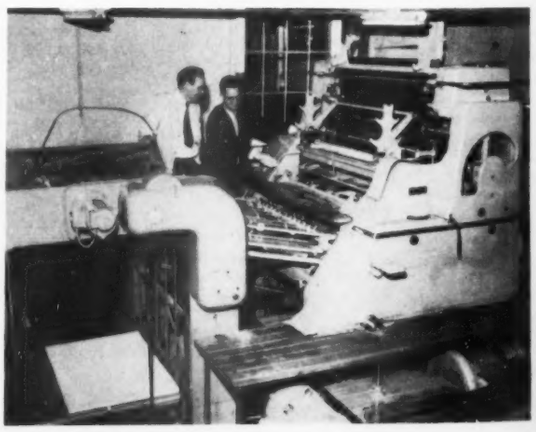
Northwest Mechanical Conf.—1955 Conv., Hotel St. Paul, St. Paul, Minn. Feb. 19-21. Pres., William Bensen, Pressroom Foreman, St. Paul (Minn.) *Pioneer Press* and *Dispatch;* Secy., Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minn.; Chairman Supplier Committee, Roy Gydesen, Mgr., Samuel Bingham's Son Mfg. Co., 900 So. Third St., Minn.

Pacific Mechanical Conf.—Secy., Don Newhouse, Prod. Mgr., Portland (Ore.) *Oregonian.*

Printing Industry of America—1954 Conf., Hotel Statler, Detroit, Mich., Nov. 15-19. Pres., James J. Rudisill, Rudisill & Co., Lancaster, Pa.; Gen. Mgr., James R. Brackett, 719 Fifteenth St., N. W., Washington 5, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc.—1955 Meeting, Parker House, Boston, Mass., May 11, 12, 13. Pres., John H. Davis, jr., also Vice Pres. and Secy., Judd & Detweiler, Inc., Florida Ave. and Eckington Pl., N. E., Washington 2, D. C.; Managing

Monitor's First Offset Press — Monitor Publishing Co., Denver, Col., has installed a Miehle No. 41 Single Color Offset Press. Shown here are, left to right, E. L. Perrine, President of Monitor, and J. E. Finch, Miehle Representative. It is the first offset press to be installed by the Denver firm.



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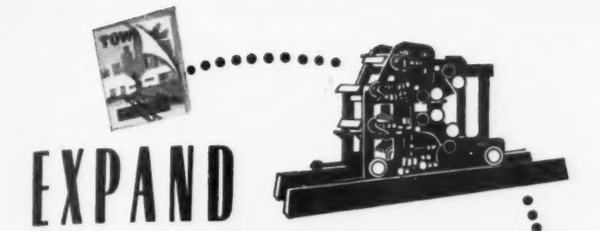

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Rocky Mountain Mechanical Conf.—Pres., Emory Cross, Scottsbluff (Nebr.) *Star-Herald*. Sponsored by Colorado Press Assoc.

Screen Process Printing Assoc. — 1954 Conv., Jefferson Hotel, St. Louis, Mo., Oct. 30-31, Nov. 1-2. Pres. Stanley R. Snider, Sniders' Poster Process Co., 2638 St. Louis St., New Orleans, La.; Exec. Secy., Robert H. Blundred, 549 W. Randolph St., Chicago 6. Conv. Committee Chairman, William Fraser, 1627 Locust St., St. Louis, Mo.

SNPA (Eastern Div.) Mechanical Conf.—1955 Conf., tentatively set for Hotel Roanoke, Roanoke, Va., Aug. 22, 23. Conf. Chairman, Boyce Brogden, Knoxville (Ky.) *News-Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conf.—1955 Conf., Adolphus Hotel, Dallas, Tex., March 6-8. Conf. Chairman, Roscoe Ammonette, Marshall (Tex.) *News-Messenger;* Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman, Supplymen's Committee, Eddie P. Gaughan, New England Fibre Blanket Co., 1225 S. Trenton Ave., Tulsa 10, Okla.

Technical Assoc. of the Graphic Arts — 1955 Conv., Somerset Hotel, Boston, Mass., May 9, 10, 11. Pres., G. L. Erikson, Braden-Sutphin Ink Co., 3800 Chester Ave., Cleveland 14; Secy.-Treas., George S. Hammer, 8 Cherry St., Marblehead, Mass.; Convention Chairman, Merrill Friend, Technical Director, Spaulding Moss Co., 113 Franklin St., Boston 10, Mass.

First Heidelberg Cylinder Press Arrives — Executives of Heidelberg Eastern, Inc., are shown inspecting the first Heidelberg cylinder press to arrive in this country. From left to right are: Charles Pope, Exec. Vice Pres.; Charles Webber, Service Mgr.; J. W. Remmington, Treasurer; and Herman Neumann, Sales Representative. The press is to be shown soon at branches of this company, Heidelberg Southern Sales Co. and Heidelberg Western Sales Co.

Colorsplitter

(Continued from Page 38)

can be made from the three separation negatives on the Colorsplitter.

Exposure times do not vary on the Colorsplitter, for the printer adjusts to the density of the transparency by movable neutral density filters built into the base of the machine. These four filters are shifted on a rotary disk by a neutral density control lever on the top panel. Thus the operator has definite control of light passing through the transparency to the print. A GE 211 lamp, operated at reduced voltage, provides illumination for the exposures. Experts advise photo department heads to strive for separation negatives which have at least 0.35 density in the shadow areas and then to develop to the desired contrast.

Consistent results when using the Colorsplitter are insured when working with recommended films, inks and engraving processes arrived at by the Milwaukee *Journal* during the period of experimentation.

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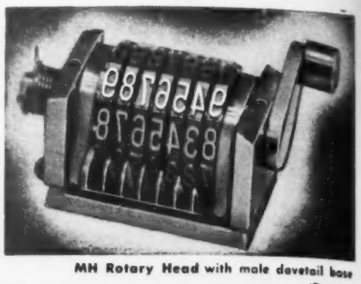
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machine operates on an electrical supply of constant strength by means of a voltage meter and regulator installed in the Colorsplitter and under control of the operator. (The Milwaukee *Journal* operates its printer at 100 v.)

The Colorsplitter cabinet is 30 in. wide, 20 in. deep by 40 in. high. The three point suspension permits placing the cabinet on an uneven floor.

Designed by Ray Bodendoerfer, consulting engineer and one of Strobo's directors, the Colorsplitter is built of electric arc and spot welded 16 ga. sheet steel on the outside and 12 ga. inside. It is sealed against dust and loss of light. The printing glass fits into a normalized semi-steel casting which has been precision ground for accurate printing surface and is heavily ribbed for strength. The top surface around the semi-steel casting is of ⅛ in. aluminum plate. The spring pressure lid is a high tensile aluminum casting with a true machine surface. Four nubs on the printing table surface slide into slots on the pressure lid when it is in position.

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Electrotype Casting

(Continued from Page 41)

down is important because it must cause the hold-down springs to function freely and at the same time permit the shell to expand. Excessive pressure of the fingers would cause the shells to buckle.

Positioning Copper Shells

As the casting pans emerge from the pre-heated oven, they are cleaned with a rotary steel brush. Their position on leaving the oven permits all foreign matter to be removed in a simple manner. As the pan levels out at the working end of the caster, the prepared shells are laid in position. The hold-down is laid in position on the back of the shells. The flexibility of the fingers on shell contact assures precision contact. The entire operation of placing the shells in the pan and putting the hold-down in position can be done in approx. 10 sec. Moving at the rate of ½ in. per sec. the casting pan has progressed 5 in. As the working area for this operation is 2½ ft. the operator could utilize 1 min. to do the job. The casting pan with shells and hold-down in position now progresses to the immersion pot.

Cam Action Immersion

The casting pan hangers, as previously described, are very flexible. At this point, the lead on forward end of the casting pan tips downward as it leaves the track and two elongated cams engage the outside bearer of the casting pan forcing it to submerge completely into the molten casting metal. As the pan is forced downward the grooves in the bottom of the pan engage the track located in the bottom of the metal pot. The cam pressure from above keeps the pan submerged and in alignment. As the pan descends into the molten metal, the electrotype shell may be immersed in the metal to a depth of approx. 2 in. below the top of the metal in the pot. In the event the following pan does not contain shells to be cast, the operator disengages the cam action by moving a lever, permitting the empty pan to float over the surface of the metal pot.

The Metal Pot

The metal pot itself measures approx. 6 ft. long by 30 in. wide by 6 in. deep. Like the pre-heating oven described previously, the pot is packed with 4 in. insulating material on four sides and bottom. Metal temperature is thermostatically governed. The metal pot is heated by three 5000 w. Chromolox strip elements of the immersion type. The pot is of 4500 lbs. capacity at 560 deg. temp.

One of the prime objectives of the caster is to have a pan ready for use at all times. By utilizing all 34 pans of the caster, a pre-heated pan is available every 41 sec. Up to this point, the reader no doubt realizes the speed in casting. But let's take a closer look into the action that is taking place while the pan with shells is completely immersed in the

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molten metal. First, we will note that the tin plating is not affected by the heat of the metal. Because oxygen is required to oxidize the tin, we have eliminated the oxygen by moving the tin (or the shells) into the metal pot. In this manner no oxygen can make contact with the tinning and we are assured a continuous bond of shell to metal. Stated simply there is no oxygen, so there can be no burned tin.

Escape of Air, Gases and Impurities

Next, let us see just what is happening after the pan with the shells in it is completely immersed in the molten metal. First, we see a bubbling action that denotes the escape of air and gases from the molten mass. This is readily understood, in that the specific gravity of the molten metal is very much greater than the specific gravity of air or of gases and, for that matter, most impurities. In other words, the air and gases are light weight elements found in a heavy liquid, thus causing the air and gases to rise to the top. Most impurities, if not gasified, will be lighter than the molten metal and will rise to the surface. By submerging the pans holding the shells for a sufficient period of time, all the air, gases and impurities will rise to the top of the molten mass. The bubbling action takes place for approx. 30 sec., after which no movement on the surface is distinguishable. Because the pan with the shell is completely submerged for 62 sec., we can be sure that a normalizing condition is taking place. It is a fact that all gases are completely eliminated and that the cast is even throughout in density.

To add this last accomplishment to those previously mentioned, we have established rigid controls to the heating of the casting pans, we have effected precise controls to the casting metal. We have also effected controlled bonding by eliminating oxygen, and have now also rid the backing metal of impurities and effected an even density to the backing metal.

Controlling Plate Thickness

It is important in casting plates by any process to control the calibration of the cast. To secure this precise calibration in the Immersion Caster, an adjustable exit track was engineered. This track is adjustable so as to conform to any angle necessary to produce exact calibration of the cast. As previously explained, the casting pans are constructed so that any excess molten metal in the pan is drained off as it passes out of the metal pot. The production of a heavy cast, or one that is light is governed by the angle of the pre-set exit track. A complete cycle of the 34 pans showed a variation of only 0.003 in. in all plates cast. This close calibration must be taken into consideration when we relate it to the cooling time that is necessary to harden the cast. The control means also that excessive backing metal is not included in the cast.

Excess Metal Flows Off

As the pan rises from the metal pot, it rides on an adjustable track, one end of which can be regulated to tilt the pan to permit excess metal to flow from the pan back into the metal pot. This automatic action assures that all electrotypes will be alike in thickness and eliminate necessity for the usual rough shaving operation altogether.

Cooling the Cast

After the casting pan reaches the end of the angle track it levels off. The holddown is removed manually as the cast continues on its way to the take-off end of the caster. The cooling is approx. 11 min. During the last 15 ft. of cooling the cast is subjected to air flow from a series of seven electric fans positioned at intervals above and below the casting pans. No change is effected in the backing metal regardless of how it is cooled, whether it be from the face of cast or from the back.

Expelling Cast From Pans

As the casting pans circle the delivery end of the caster the electrotypes automatically drop by gravity, face up on a conveyor belt.

Trimming the Plates

The conveyor belt carries the still hot electrotypes toward a guillotine cutting machine. The operator wears working gloves. The electrotypes are trimmed to rough size.

At this point, the cast is brushed clean and is ready for the Consoleveler. The cast is level and requires no straightening before placing it on the bed of the Consoleveler. The close tolerance in cast calibration has eliminated necessity for taking a rough shave or for bumping the plate. By subjecting all casts to the Consoleveler immediately after they are cast, even density of the plates is assured.

Solidifying the Plate

After being trimmed on the guillotine the still hot electrotypes are delivered to the Bishop Consoleveler. This machine was described in the November 1951 issue of *Printing Equipment Engineer*. It is used to solidify the structure of the backing metal and to level out the printing face of the plate. Thus any sinks or depressions in the printing face are eliminated. The most effective action taking place in passing the plate through the Consoleveler is that the microscopic grain structure of the metal is condensed—that is, the grain particles are compelled to assume a dense position in relation to each other. These various actions are secured by laying the plate printing face down on the bed of the machine. As the bed bearing the plate or plates passes under a series of staggered rollers, the pressure of each of which is controlled through individual cantilever action, the backing metal is solidified.

It is an important part of the Bishop process that close control of the plate fabricating operations is held at all times. By the immersion part of the process a normalized plate is produced. While the plate is still warm it is passed through the Consoleveler to solidify it and eliminate from 80% to 90% hand finishing operations. No rough shave is necessary because of close control of plate thickness through draining off of excess molten metal immediately after the pan is immersed in the molten metal.

It is recommended that at this stage in the making of electrotypes, that they be given the Bishop pre-makeready treatment for relief of the halftone printing areas to proper height. After the plate has been treated according to printing values in the halftones, it may be curved to press plate cylinder thickness. The plates are now ready to be sent to the curved plate proof press.

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OCTOBER 1954

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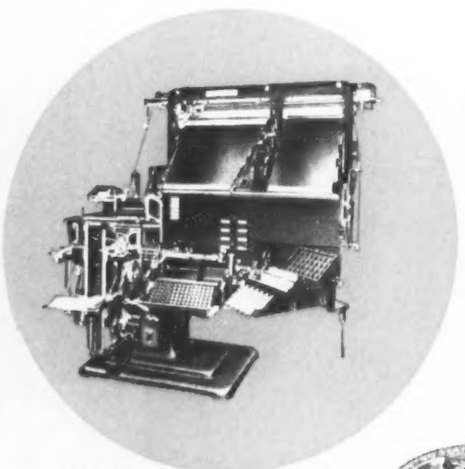

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